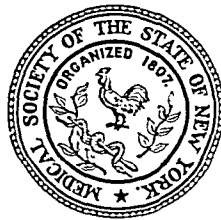


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NEW YORK STATE JOURNAL OF MEDICINE

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VOLUME 42

JANUARY 1, 1942

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Editorial

The Expensive Psychiatric Scrap Heap

The year 1942 may develop many unforeseen things. But it will certainly not see any reduction in the huge pile of expensive psychiatric wreckage that has been accumulating in our medical backyard. To the physical wrecks accumulated there in the ordinary course of the American Way of Life must be added the constantly increasing increment of mental defense and war derelicts. The pile is growing in size at a rate that bids fair to impede the orderly scientific removal by the medical salvage crews of those who can be reconditioned or rehabilitated. Alcoholism, the industrial speed-up, rejections by the Army and Selective Service boards of neuropsychiatric cases (the fifth most important cause for nonacceptance for full military duty) domestic and business difficulties may be expected to heap Pelion on Ossa, to create one of the gravest problems facing medicine in years. For the mechanism of rehabilitation is all too inadequate to keep up with the rapidly increasing numbers of those who must some way be refitted into the productive structure of society.

We face a condition, not a theory. What condition? In part, this:

In the general military hospitals of the Nation, more than one-half the beds are occupied by patients with nervous and mental diseases, according to Lieut. Col. William C. Porter of the Army Medical Corps. This figure includes veterans' hospitals.

The Army has no provision at present for any sort of limited service for these men after they have partially recovered. They must be kept in the hospital until they are discharged. Colonel Porter estimates that about one-fourth of all the beds in well-established general hospitals in the Army are occupied by such patients continuously.¹ After they are released, then what?

The anxieties and tensions of war and other crises tend to increase alcoholism. With what result? "In Massachusetts, among first admissions to state mental hospitals in 1939, . . . alcohol ranked third as a cause of mental diseases, considerably ahead of syphilis, which ranked sixth."² If this is true in Massachusetts, what is the total for the Nation?

The thirty-first annual report of the National Committee for Mental Hygiene says of the state mental hospitals "The situation . . . is daily becoming more critical and we must act to halt developments that threaten a breakdown of their services. . . . Acute overcrowding, poor sanitation, dilapidated buildings, fire hazards, badly fed and poorly clothed patients, exposure to dangerous infections, shocking shortages of medical and nursing personnel, lack of essential therapies—the catalogue . . . is a melancholy one. There is an estimated deficit of 150,000 beds . . . long waiting lists of patients,

¹ New York Times, Aug. 21, 1941.

² Quart. J. Stud. Alcohol 2: No. 2 (Sept.) 1941.

many of whom languish in jails for want of hospital facilities." This condition of affairs may in part be traced to economies of the recent depression and is now further threatened by the induction of professional personnel into the armed forces and by state budget restrictions.

The annual cost in public funds to maintain even such inadequate facilities as there are is nearly \$200,000,000, but only about \$5,000,000 a year is allotted to the support of mental hygiene clinics to prevent the commitment of such mentally ill patients, according to the Public Health Reports.³ This same source alleges that many cities of 50,000 to 100,000 population have no qualified psychiatrist in practice and that "if they were distributed evenly according to population . . . would provide one psychiatrist to every 57,247 persons in the country" Well, in part, those are the conditions, believe it or not.

Perhaps the lack of sufficient properly qualified medical personnel can be rectified in time. Perhaps the general practitioners, or at least many of them, can be re-educated to a better knowledge of how to understand and to treat these mental wrecks. Toward this end the JOURNAL plans to publish from time to time articles on mental health which will be of particular interest to the general practitioner.

Here and there "mental hygiene clinics are springing up, and in these child guid-

ance and habits are being stressed. The adult mental hygiene clinic appears to offer the most practical value." Family care of some patients has been held to be safe for the community by Horatio M. Pollock, Ph.D., of the State Department of Mental Hygiene, writing in the October, 1941, issue of *Mental Hygiene*. And it is well that some method of care for the psychoneurotic other than hospitalization should be receiving proper study and evaluation.

A hospital plant "involves a minimum outlay of millions, \$5,000,000 being about the average figure for a 2,000 bed hospital. The annual maintenance cost . . . is approximately \$800,000, and an attempt should be made to find less expensive methods of controlling mental diseases."⁴

Is it not time for the various state medical societies and other groups interested in mental hygiene to appoint, if they have not already done so, hard-boiled, financially alert, and practical-minded committees on mental hygiene to study, in collaboration with civil agencies, the question of the best methods by which the urgent problems of the mentally ill can be solved inexpensively, rationally, practically, and in a manner realistically related to the inevitable lowered standard of living implicit in the Federal Tax program?

⁴ Gagnon, Solomon: *New England J. Med.* 225: No. 1 (July 3) 1941.

³ Pub. Health Rep. 56: No. 40 (Oct. 3) 1941.

How Long?

In a recently published volume, *Plain Words About Venereal Disease*, Surgeon General Thomas Parran and his assistant, Dr. R. A. Vonderlehr, discuss the problem of venereal disease in the Army and Navy. Medical men have for many years advocated dealing with syphilis and gonorrhea realistically, at the source, as any other infectious disease is dealt with. But because of the fact that the source of these infections, arising in prostitution and venery, is either profitable or pleasurable or both, progress has been

much retarded. Free and factual discussion has been discouraged by religious taboos and sabotaged by those who could reap huge profits from the exploitation of sexual intercourse as long as they could be protected from too much interference in their business by constituted authority, itself often not above sharing generously in the proceeds of the traffic, as well as by the ignorance and fear of the customers.

It is, therefore, a significant and practical advance when the New York

*Times*¹ discusses editorially the question of control of venereal disease in the armed forces.

"Prostitution is the crux of the problem presented. Wherever soldiers, sailors, and defense workers are mobilized the prostitutes are mobilized too. They settle down in shacks and houses. They come in trailers. They are highly organized. They account for 25 per cent of all cases of syphilis in ordinary times and now for 75 per cent around camps and industries. Our tendency to treat syphilis and gonorrhea not so much as diseases but as the wages of sin partly accounts for the squeamishness of local communities to deal with the problem of prostitution drastically. Army and Navy officers have been little better. Despite all the evidence, they prefer regulation and inspection to suppression."

The *Times* is a family newspaper. Families have sons in the armed forces and daughters in the community. Syphilis and gonorrhea are an individual and family concern. Both can be controlled if not eradicated. The knowledge and the means are available.

It is true, as the *Times* points out, that honest difference of opinion exists as to the respective merits of regulation and suppression. But this is a minor matter. The important thing is a body of public opinion, a body of family concern, which shall demand, and get, action based on available modern knowledge to remedy an absurd, stupid, and medieval tolerance of infectious diseases no different except in their symptoms and the manner of their acquisition from tuberculosis, leprosy, or typhoid.

By such editorial comment as that to which we refer, the *Times* is initiating a powerful educational campaign in the place where it will do most good—namely, the home. Of the officers of the armed forces it says:

"Their problem is difficult, because prostitution does not stand by itself; it is part of a complex in which local poli-

ticians, gangsters, real estate agents, a few corrupt physicians who issue certificates of good health at a price, and sometimes the police, are involved."

This places squarely in the laps of the local voters a responsibility to see that local police and health and legislative authorities get on the job and stay on it. Neither Washington nor the Army or Navy can accomplish much without the help of local authorities backed by all the power of the will of the locality that these diseases be cleaned up.

Sharp issue is taken by the *Journal of the American Medical Association* for November 29 with charges contained in a publicity article on the new book, *Plain Words About Venereal Disease*, and with some of the charges in the book itself. The *Journal* says that there seems to be every reason to believe that the venereal incidence in the Army is steadily declining, notwithstanding charges to the contrary in the publicity article and in the book.

"Meanwhile," says the *Journal*, "the Army Medical Department, confident that it is exerting every effort to make its control program effective, lists this outline of its procedures:

"(a) Physical examinations to prevent the induction into the service of selectees infected with venereal diseases.

"(b) Education of the soldiers concerning the dangers of venereal diseases and advice as to the desirability of continence.

"(c) Provision of prophylactic facilities for those who expose themselves to the risk of infection.

"(d) Regular monthly physical inspection of troops to detect infected individuals.

"(e) Thorough treatment until all men who become infected are cured.

"(f) Isolation of venereal disease patients during the infective stages.

"(g) Disciplinary measures for soldiers who become incapacitated because of venereal diseases, unless innocently acquired.

"(h) Cooperation with the Bureau of Medicine and Surgery, U. S. Navy; the

¹ Syphilis and Defense, November 29, 1941, page 16.

U. S. Public Health Service; the Division of Medical Sciences, National Research Council; the American Social Hygiene Association; etc.

"(i) The reporting to the responsible civil health authorities of known civilian sources from which soldiers are infected, in order that such sources may be traced and eliminated.

"(j) The agreement with the U. S. Public Health Service whereby the latter, working through state and local agencies, has undertaken to eliminate civilian sources of venereal infection in extramilitary areas.



"(k) The May law which can be invoked when—and preferably, as all leaders agree—only when existing civilian agencies responsible for the elimination of prostitutes in extramilitary areas fail to do so.

"Plain Words About Venereal Disease

tells of some plague spots—particularly in larger cities of the South and Southwest—where segregated prostitution still prevails. The charge is made that 80 per cent of commanding officers are opposed to repression of prostitution and favor regulation (page 109). Yet actual newspaper accounts from many areas show that many officers are taking their responsibility most seriously. Perhaps the nation as a whole is not too ready to cede more of its obligations to federal control."

How long will it be before the several communities of the Nation will prepare and enforce, locally, as comprehensive a program to protect themselves as the Army and Navy are putting into practice right now?

In our view, the will to be rid of the sources of these infections must exist before any program can be effective.

 *Buy U. S. Defense Bonds and Stamps* 

A Call to Service

DR. FRANK H. LAHEY

President of the American Medical Association

The establishment by the government of a Procurement and Assignment Agency properly places the responsibility for obtaining medical personnel in the hands of the medical profession. The success of this agency depends entirely on a few basic features: the complete cooperation of medicine in what even the most doubting must now admit is a truly national emergency; an unqualified willingness to serve the country however, wherever and whenever required; and a firm purpose to establish the fact that medicine intends to maintain its place in the forefront as it always has when a patriotic example is of such significance.

THE DIRECT SUPRAVESICAL EXTRAPERITONEAL CESAREAN SECTION

RAYMOND J. PIERI, M.D., and FRANCIS R. IRVING, M.D., Syracuse, New York

ANY discussion of the modern evolution of the truly extraperitoneal approach to the pregnant uterus, regardless of the technic employed, would be incomplete without at least an outline of the more ancient history of cesarean section.

The delivery of an infant through the abdominal wall of its mother is probably centuries older than recorded history. It is likely that even the ancient Egyptians may have been aware of the procedure, and it is known that during many centuries of antiquity such operations were not rarely performed upon pregnant women who were presumably dying or already dead. Indeed, Numa Pompilius¹ (715 B.C.), the second king of Rome, decreed it unlawful to bury a pregnant woman before extraction of the fetus by abdominal section. Subsequently, the Roman law² made the latter procedure compulsory throughout ancient Italy. While many instances are recorded of living children being thus born,³ no claims are made that any mothers survived the ordeal.

Before 140 B.C. the ancient Jewish laws,⁴ according to the Mishnejoth, made mention of the operation, while later (400 A.D.) the Talmud contained references to two types of abdominal delivery.

Pickrell⁵ states that the *Chirurgis Guidonis de Cauliaco* (1363) was the first medical work to contain an account of the actual operation, while the first authentic case in which abdominal delivery was performed on the living woman was in 1491. Nearly a century later (1581) Rousset, in a published monograph, claimed successful abdominal delivery in 14 cases. After Rousset and his claims of success, there was manifest in Europe a gradual increase in the number of accoucheurs who resorted to this means of delivery in complicated cases of dystocia. It must be remembered that advanced disease and deformity of the bony pelvis⁶ were then more frequently encountered than at present. Vitamin and dietetic deficiencies and their relation to skeletal maldevelopment were still unknown.

In his excellent historical review Barry⁷ mentions the mortality rates following cesarean section reported during the nineteenth century from various parts of the scientific world. These ranged from 52 per cent (United States) and 84 per cent (England) to nearly 100 per cent (France and Austria) up to the year 1869. Lister's immortal work⁸ did not appear until 1867. Modern aseptic technic in obstetrics was still unborn. So was modern surgery. All laparotomies yielded a frightfully fatal toll.

In spite of these abhorrent statistics, and the opposition to abdominal delivery which such dire results inevitably produced, cesarean section still remained, in some cases, the only alternative to destruction of the living child by craniotomy. Aversion of the obstetric surgeon for the latter operation, plus its condemnation by the Catholic Church, slowly overcame the deserved prejudices against delivery by abdominal section and encouraged repeated attempts at betterment of the surgical technic.

Sänger⁹ (1882), observing the principles of asepsis and by the use of sutures in the uterus, contributed much toward improvement of the operation. But with the passing years even the most refined skill in the performance of the original classic operation in unselected cases yielded, as it still yields, a high mortality rate (1 to 10 per cent).

It is not surprising, therefore, that other types of section were devised. Porro¹⁰ (1876) had introduced supravaginal amputation of the uterus after delivery of the child. This was followed by a decided decrease in the number of fatal results, especially in infected cases.

The first premeditated low cervical section had been performed (DeLee)¹¹ by Osiander, of Goettingen, in 1805, and was repeated by the same operator in 1806. Jeorg¹² emulated Osiander. While none of the patients survived these original procedures, the idea of incising the lower segment of the uterus was the forerunner of the present-day type of low cervical operation.

Not until a century later did Frank¹³ (1907), of Cologne, recalling Osiander's work, report his "exclusion" operation, whereby he entered the abdominal cavity by a transverse

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 19, 1941.

From the Obstetrical Department of the College of Medicine, Syracuse University.

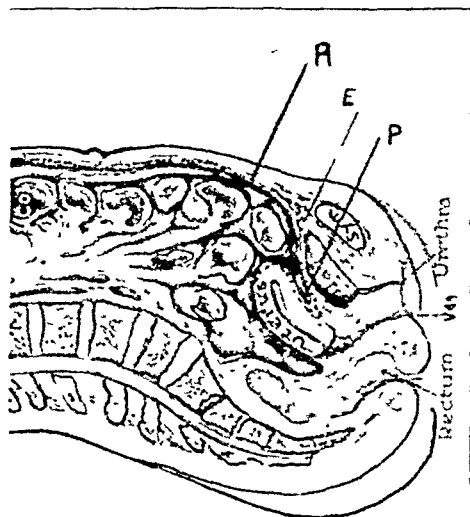


FIG. 1. Relation of peritoneum to pelvic organs in nonpregnant state. *A*, parietal peritoneum; *P*, uterovesical space; *E*, extraperitoneal space.

suprapubic incision and then sutured the parietal peritoneum to the uterine peritoneum above the level of the lower uterine segment. He thus excluded the upper portion of the abdomen from the operative field. Delivery was then accomplished through a transverse uterine incision.

To Sellheim¹⁴ and his prolific pen must go most of the credit for extensive studies and reports of the surgical anatomy of the pelvis. He found that the firm attachment of the peritoneum to the prevesical fascia is limited, for the most part, to the summit of the bladder, while laterally this adherence becomes less and less firm. Likewise, in 1910 he noted the advantages of operating through the low, noncontractile portion of the uterus. He devised several low cervical (intraperitoneal or transperitoneal) procedures, the so-called fourth operation of Sellheim providing the fundamental steps of the present laparotomectomy of DeLee, Franz, Optiz, Krönig, and Beck.

But none of these low operations—each of them greatly superior to the old, now almost obsolete, classic operation in which the contractile body of the uterus was incised—could completely overcome the lurking dread of peritonitis. Some danger of contamination as a result of uterine “spill” remained as a

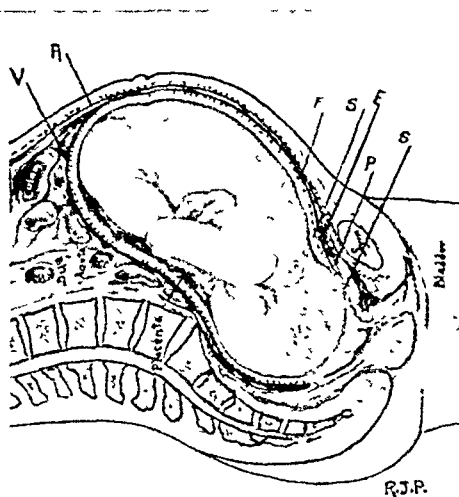


FIG. 2. Pregnancy at term. Deep engagement of head. *A*, parietal peritoneum; *E*, extraperitoneal space; *F*, transversalis fascia; *P*, uterovesical space; *S*, lower segment; *V*, visceral peritoneum.

constant threat. This was especially true in the presence of infection, no matter how meticulously the exposed upper part of the abdomen was artificially isolated from the operative field. It is precisely in the infected case that extraperitoneal delivery becomes a source of consolation to the surgeon.

To devise a truly extraperitoneal operation that can be performed with reasonable facility has long been the dream of the obstetric surgeon. As early as 1820 Ritgen¹⁵ attempted to enter the lower uterine segment by incising above and parallel to the right Pouparts' ligament. By displacing the intact peritoneum upward and the bladder laterally he exposed and incised the uterus, but such severe hemorrhage ensued that the operation, gastrolytotomy, was abandoned and completed by the classic route. According to Dewees,¹⁶ Physick had recommended a similar operation in 1824 but had never attempted it.

The year 1909 brought forth the two extraperitoneal operations of Doderlein¹⁷ and Latzko.¹⁸ The aim of each of these procedures is to reach the passive segment of the uterus by bluntly dissecting the peritoneum upward over the upper left of the bladder while that organ is pulled downward and to the right. Thus, there is exposed about one-half of the field originally covered by the latter organ. A longitudinal incision into

the uterus then serves as a means of delivery of the child.

Aldrich¹⁹ still further modified this approach (1937) by incising the fascia of the perivesical capsule in the midline and retracting the bladder sufficiently to enter the uterovesical space. In the case of a large baby the space made available for delivery in these operations, however, sometimes invited great risk of injury to maternal structures and made delivery a formidable procedure.

In the United States, until 1939, Davis,²⁰ Burns,²¹ Steele,²² Norton,²³ and Aldridge had performed collectively what was probably the largest number of cases delivered by the Latzko or modified Latzko method. In January of that year Dr. Edward G. Waters²³ reported a series of 32 cases in which he had successfully accomplished extraperitoneal delivery in accordance with a new and apparently safer modification of operative technic. To demonstrate the surgical simplicity of this latter operation, to stress to the obstetric surgeon that it is both rational and practicable, and to emphasize its advantages are the purposes of this presentation.

This so-called direct supravescical operation is based upon certain well-established anatomic facts.

The first essential, briefly expressed, is concerned with the distribution of the fascia endopelvina.²⁴⁻²⁵ The latter (pelvic fascia) is practically a continuation of the transversalis fascia, a thin, avascular aponeurosis which forms a line of cleavage between the inner surface of the transversus abdominis muscles and the extraperitoneal fat. The transversalis fascia lines the entire abdominal wall and in the midline separates the peritoneum from the posterior sheath of the recti muscles from above downward to a short distance below the navel. Here, the posterior rectus sheath terminates in a definite margin (linea semicircularis). From this point the transversalis fascia, lying now between the peritoneum and the posterior surface of the recti, descends to become more or less continuous with the pelvic fascia. The main sheet of the pelvic fascia gives off four layers, one a laminated layer that encloses the bladder (fascia vesicae or perivesical fascia) and a second that envelops the uterus (fascia uteri). A third layer forms the vesicovaginal septum, while the fourth forms the rectovaginal septum.

It is well known to all who are familiar with surgery of the lower uterine segment

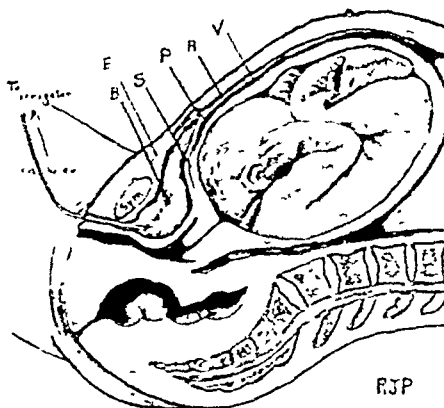


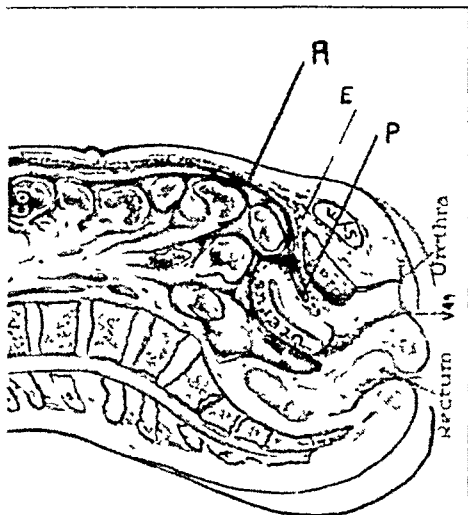
FIG. 3. Pregnancy at term. Floating head. The bladder is distended with solution. A, parietal peritoneum; B, bladder; E, extraperitoneal space; P, uterovesical space; S, lower segment; V, visceral peritoneum.

that the peritoneum covering the uterovesical space (see Fig. 1) is freely movable and that the bladder can be separated from the uterus bloodlessly and with remarkable ease between the respective fascial coverings of these two organs. This loose attachment between peritoneum, bladder, and lower uterine segment, greatly increased during pregnancy, permits enlargement of the gravid uterus and proper function of the bladder (see Fig. 2), which obviously could not distend if restricted by rigid fascial or peritoneal bands. Only at the summit and posterior aspect of the bladder are the peritoneum and perivesical fascia intimately adherent to each other. This close adherence is limited to a relatively small area.

Cognizant of these factors, we have performed a series of extraperitoneal operations employing a technic that is practically identical with that demonstrated by Waters.

After the usual preoperative preparation for cesarean section, a retention catheter is connected to an ordinary irrigator containing 500 cc. of sterile indigo-carmin or methylene blue solution, of which about one-half or more is allowed to flow into the bladder (Fig. 3).

Distended in this manner, the bladder carries with it the adherent peritoneum upward into the superficial portion of the proposed operative area (the extraperitoneal space). This facilitates the task of dissection.



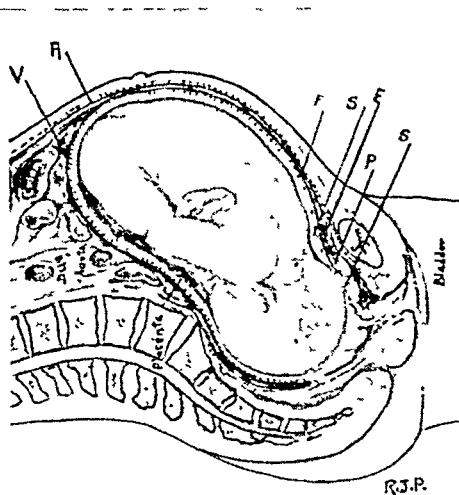
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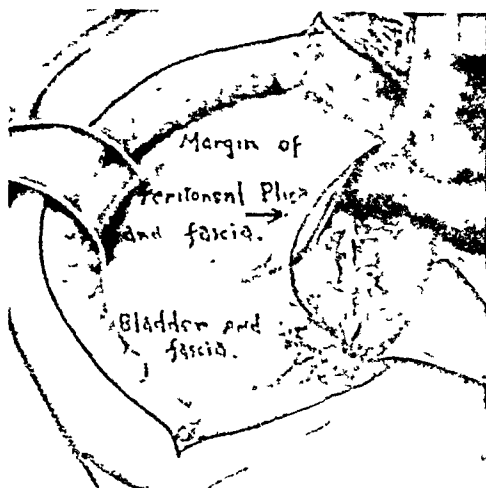


FIG. 7. The finger raises the peritoneal fold. Note the "tugging" of the fascia. Dissection across the bladder proceeds from left to right. L.S., lower uterine segment.

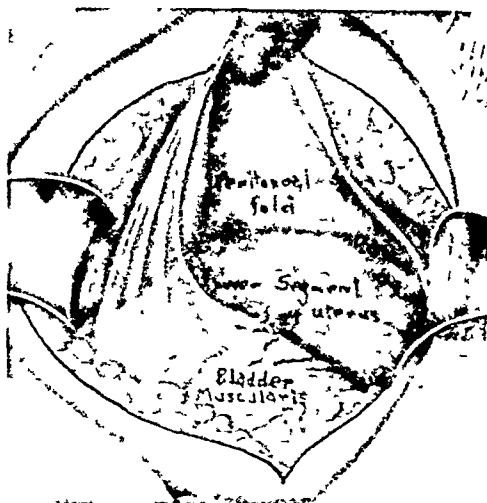


FIG. 8. As dissection continues the divested bladder drops downward. More and more of the lower segment is thus exposed.

bladder fundus permits exposure of a portion of the lower uterine segment as the peritoneal fold or "sac" is carefully sought and identified (Fig. 6).

The bladder is now emptied, and under direct vision the left index finger is introduced into the vesico-uterine space below the exposed peritoneal fold and is gradually insinuated toward the operator between the lower uterine segment and the bladder. With slight traction upward (Fig. 7) the edge of the peritoneal plica is placed on a stretch. The posterior perivesical fascia is now in front of the finger and is clearly visible "tugging" between the edge of the peritoneal fold and the bladder. Incision of this fascia without damage to peritoneum is now meticulously accomplished from left to right, the divested bladder dropping downward as it is freed in this fashion (Fig. 8) while the severed fascia adheres to the peritoneal fold above. In some cases a prominent median umbilical ligament (urachus) is encountered, apprising the operator of the location of the midline. The dissection, however, traverses the entire adherent area. Experience has shown that preservation of the urachus is irrelevant and, therefore, optional. Any bleeding vessels injured during the dissection are easily ligated with fine catgut. Shortly, the peritoneal plica above is entirely freed from the bladder below. Between them in the background (Fig. 9) lies the lower uterine segment. Excellent exposure of the latter is secured, using a wide, curved retractor to hold the

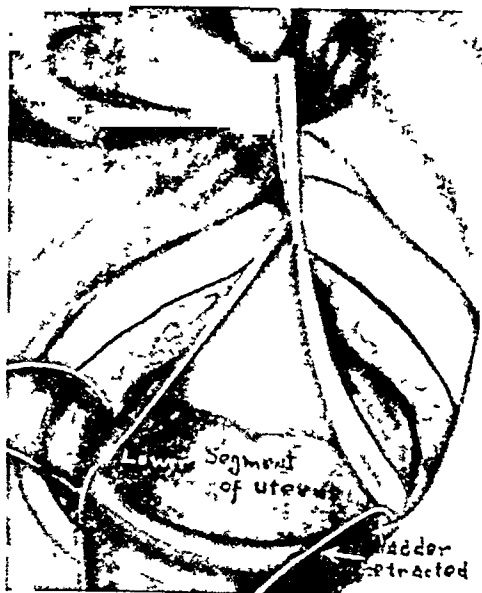


FIG. 9. The uterovesical fold of peritoneum is completely separated from the bladder, which is now held behind the pubes by means of a retractor.

bladder downward, a lateral retractor on each side, and a fourth to retract the freed and intact vesico-uterine fold above. The operative field is spacious, bloodless, and completely extraperitoneal. Even additional space, seldom necessary, may be created by bluntly separating upward more of the peritoneum

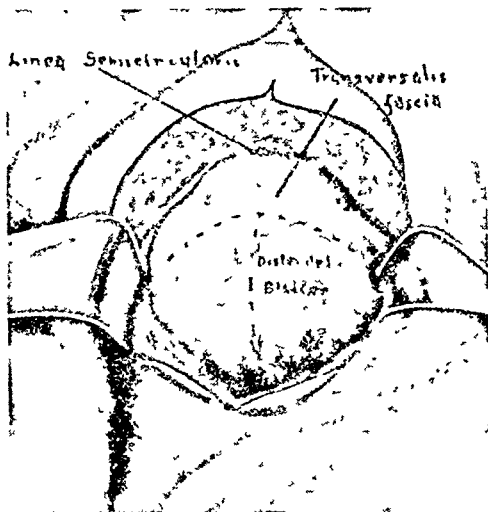


FIG. 4. (After Waters) A T-shaped incision is made over the bladder down to muscularis. The peritoneal attachment is above the transverse portion of the incision.



FIG. 5. Dissection of the perivesical fascia upward carries with it the adherent peritoneum.

The operator works usually from the patient's right side. Through either a low left paramedian incision or a Pfannenstiel incision the recti muscles are separated and retracted laterally from the midline, exposing the intact transversalis fascia between the linea semicircularis above and the pubes be-



FIG. 6. As the peritoneum and fascia are dissected upward, the left top of the bladder is carefully pushed downward, revealing LS (the lower uterine segment) and the left margin of the peritoneal "sac."

low. The area thus exposed demarcates the proposed operative field. The outline of the distended bladder is visible through the intact transversalis fascia, which is now carefully incised vertically to expose the underlying and more closely woven layers of the perivesical capsule of fascia.

A short (1 or 1½ inch) vertical incision through the laminations of this fascia down to the bladder muscularis is now cautiously made in the midline, beginning a few centimeters below the bladder fundus in order to avoid the peritoneum. Various small blood vessels on the surface of the muscularis aid as a landmark at this stage of the procedure. With the closed scissors or with the knife handle the fascia is freed from muscularis and incised transversely. The bladder muscularis has now partially been exposed by two incisions not unlike the letter T (Fig. 4) made through the anterior perivesical fascia. Separation of the fascia above the transverse incision (Fig. 5) carries upward with it the peritoneum. Meanwhile, with the aid of a sponge, separation of the bladder downward is begun over the upper left border of this organ, seeking the margin of the vesico-uterine fold. This step is facilitated by previous labor and by the usual dextrorotation of the pregnant uterus, which makes the left portion of the vesico-uterine space more shallow. Here, the loose areolar tissue lateral to the

TABLE 1.—RESULTS OF OPERATION IN 11 "CLEAN" CASES

Case No.	Hours of Labor	Delivery by	Baby's Weight— Pounds	Ounces	Culture Yield	Complications	Day of Discharge
1	11	Version	6	10	Negative	Infected wound	19
6	19	Forceps	8	14	Staphylococcus	None	14
7	14	Vectis	7	1	Negative	None	12
9	21	Manual	7	7	Negative	None	14
12	0	Breech	7	3	Negative	None	14
13	0	Forceps	7	0	Negative	None	13
14	23	Vectis	8	2	Negative	None	15
15	29	Vectis	8	4	Negative	None	14
17	0	Vectis	6	14	Negative	None	13
19	17	Vectis	7	15	Negative	None	14
20	15	Vectis	8	3	Negative	None	12

TABLE 2.—RESULTS OF OPERATION IN 9 CASES OF ACTUAL OR SUSPECTED UTERINE INFECTION

Case No.	Hours of Labor	Temperature F.	Baby's Weight— Pounds	Ounces	Culture Yield	Delivery by	Complications	Day of Discharge
2	96	103.2	8	9	Staphylococcus, streptococcus	Vectis	Infected wound	21
3	29	101	7	10	Negative	Forceps	None	15
4	34	98.6	10	8	Staphylococcus	Version	Infected wound	17
5	26	102	9	10	Streptococcus	Version	Distention	17
8	39	100.8	10	3	Bacillus coli, staphylococcus	Vectis	None	14
10	29	100.2	8	0	Negative	Forceps	None	14
11	34	98.6	8	0	Negative	Forceps	Infected wound	16
16	37	101.5	7	7	Negative	Forceps	None	13
18	56	102.1	7	13	Negative	Forceps	Profuse drainage	19

For purposes of comparison, all of the so-called "clean" cases, including the four elective operations, are tabulated in Table 1. It will be seen from this table that the results following the extraperitoneal operation in this group compare favorably with those that might be expected to follow any transperitoneal lower segment operation in similar cases. Case 1 was a primipara with an imparted shoulder presentation. A purulent infection of the incision was the sole cause of her longer-than-average stay in the hospital. The recovery of the staphylococcus organism by culture during operation in Case 6 did not affect convalescence.

The cases that were considered as potentially infected are included with those that were assumed to be actually infected. These are listed in Table 2. It is evident from this table that no serious complication was encountered in spite of positive culture reports in several instances. Aside from the wound infections, only 1 case presented any abdominal signs. This was Case 5, in which marked abdominal distention was noted on the second day. Prompt relief followed the administration of prostigmin and a simple enema. Eight of this group were morbid postoperatively, a not unexpected sequel to their febrile preoperative condition.

During delivery of the baby the preservation of the integrity of the peritoneal fold

and of the incision in the lower uterine segment was remarkable. The former was not injured, while in only 1 case was extension of the uterine incision observed, although version and extraction were performed in 3 cases.

Conclusions

1. Twenty cases of direct supravaginal extraperitoneal cesarean section are presented.

2. There was no maternal or fetal mortality in this series.

3. The results in these cases, 9 of which were preoperatively termed actually or potentially infected, were uniformly good.

4. The technic of the operation proved to be not too difficult, although meticulous care had to be taken in the separation of bladder fascia from bladder muscularis.

5. The birth opening made available by following this technic proves to be larger and more accessible than that secured by the Latzko or modified Latzko method.

6. With a not too difficult operation at his disposal the obstetric surgeon can, with greater equanimity, allow the borderline case a longer test of labor.

7. Especially in infected cases, it is hoped that other hands will further demonstrate the safety and satisfactory results of what we believe to be an operation that will enable the accoucheur to reduce the hazards in this type of case.

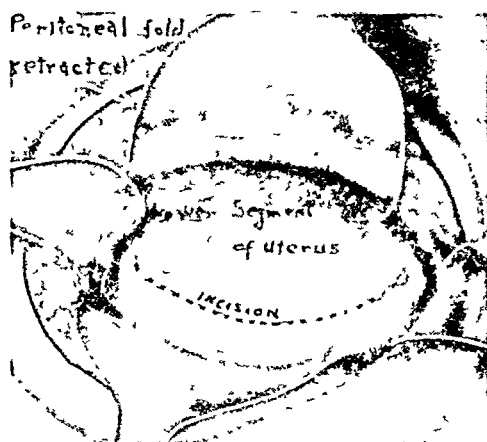


FIG. 10. Additional retractors expose a wide area of the lower segment. The proposed crescentic incision is made as indicated (see text).

from the anterior surface of the lower segment.

The uterine incision is started as a "nick" in the lower segment about an inch above the bladder retractor. Culture of the amniotic fluid is routine. With bandage scissors the incision, as recommended by Dr. Waters, is carried widely toward each side, curving the ends upward to a level 1 to 1½ inches above the original nick. This creates a crescentic aperture, the curved diameter (Fig. 10) of which makes possible a much larger opening than could be provided by any straight incision similarly located. The spill is removed by suction.

In vertex presentations, either the face or the vertex is brought to the front, delivery being accomplished manually or with forceps exactly as in laparotrachelotomy, or (as also recommended by Waters) a single blade of the instruments, aided by suprafundal pressure, may be used as a vectis to raise the head out of the pelvis. Simultaneously, ergotrate is administered intravenously, thus usually obviating the necessity of manual extraction of the placenta and membranes, a maneuver that is especially undesirable in the presence of infection. Several T-shaped clamps are used to grasp the edges of the uterine wound. The operative field is sponged dry, and the uterine incision is closed by two layers of running chromic No. 1. sutures. The second layer (Lembert) inverts the first layer and effectively seals the operative field from the uterine cavity and vagina.

Using warm moist sponges, inspection is

carefully made for bleeding points and damage to the bladder, which is refilled meanwhile if necessary. The transversalis fascia over the bladder is sutured, and the uterovesical space is drained with rubber tissue. The peritoneal fold is then allowed to fall into place (but is not sutured). Two or three sutures are used to coaptate the separated recti muscles. Ordinarily, no retention sutures are considered necessary, the closure being completed with a continuous chromic No. 2 suture in the rectus fascia and clips to the skin.

The catheter is permitted to remain in the bladder forty-eight hours, while the rubber drain, depending upon the degree of infection present, is not removed for three to five days.

Summary of Results in 20 Cases

During the ten months preceding this report we have performed the operation as above described upon a series of 20 patients without maternal or fetal mortality.

The operating time is of interest, varying from ninety minutes to forty-two minutes. In general, the earlier operations consumed more time because of inexperience with the technic. With 3 exceptions in which nitrous oxide, oxygen, and ether were employed, spinal anesthesia was chosen. In 5 cases the peritoneal cavity was inadvertently opened during dissection but before incising the uterus. In each instance the opening was immediately tied off (not sutured) before continuing the operation. In 2 instances the bladder was entered and repaired at once. In neither case did any vesical complication follow.

Fifteen of our cases were primiparas and 5 were multiparas. Sixteen had been in labor for periods that varied from eleven hours to ninety-six hours. Four operations were performed as elective procedures prior to the onset of labor. Three of these were upon women each of whom had been delivered once previously by laparotrachelotomy. The fourth was an elderly primipara with a breech presentation near term and a borderline pelvis.

Of the 16 patients who had been in labor, 7 were "clean" cases and 9 were actually or potentially infected at the time of operation. Vaginal examinations during labor or ruptured membranes of over ten hours' duration were the criteria for our classification of potential infection. The presence of fever was the additional criterion for assuming the presence of actual infection.

A PLEA FOR THE EARLIER DIAGNOSIS OF RECTAL CANCER

An Analysis of 108 Clinic Patients

RALPH R. BRAUND, M.D., and GEORGE E. BINKLEY, M.B. (Tor.) F.A.C.S.,
New York City

PROGRESS during the last twenty-five years in the treatment of cancer of the rectum is encouraging to all students of oncology. No greater strides have been made in the entire field of cancer therapy. Improved pre-operative and postoperative management has given the surgeon better control of the metabolic processes of patients. This, together with improvements in surgical technic, has resulted not only in a lower operative mortality but also in an increased operability rate and a higher percentage of five-year survivals.

Twenty-five years ago the operability in the larger private clinics did not exceed 30 per cent, with an immediate mortality of 20 per cent plus. Today, in some private clinics the operability rate for rectal cancer has reached the high average figure of 60 per cent, with an operative mortality under 10 per cent. More encouraging is the corresponding increase in the number of five-year survivals from 26 per cent in 1925 to 60 per cent plus in 1940. Unfortunately, however, the early diagnosis of cancer of the rectum has not kept pace with the advances made in treatment.

In the free clinic of the Memorial Hospital so many new patients are seen with far-advanced and hopelessly incurable cancer of the rectum that we thought it would be of interest to determine the reasons for the delay in these patients presenting themselves for treatment. It is hoped that by presenting these reasons, together with the symptomatology and proper methods of examination, the general practitioner may become more "cancer conscious" and arrive at the proper diagnosis without undue delay.

The general practitioner has the greatest opportunity to recognize the disease in the early stages. The extensive educational program for the laity conducted by radio, press, and lecture will be of no avail if physicians fail to make an early diagnosis of a cancer and fail to give adequate advice.

Detailed histories were taken on 108 unselected patients with cancer of the rectum who were admitted to the rectal clinic between July 1, 1939, and December 31, 1940.

From the Colon and Rectal Service of Memorial Hospital for the Treatment of Cancer and Allied Diseases.

We were interested chiefly in family history, symptomatology, time interval from onset of symptoms until they sought medical advice, type of examination and treatment received prior to admission, and lapse of time before reference to the clinic.

Family History

It is difficult to obtain an accurate family history of cancer from many patients. This is true when dealing with a group, many of whom are foreign born and have little knowledge of the cause of death of members of their families. The feeling that cancer stigmatizes a family is also encountered. Patients may stoutly deny such history and then, after reflecting that truth might affect the method of treatment, report at their next clinic visit instances of cancer in the family. Thirty-one, or 28.9 per cent, of our patients gave a family history of cancer in 41 relatives, 10 of whom had cancer of the rectum (Table 1).

Symptomatology

Symptoms usually described in textbooks as offensive, purulent, bloody stool, alternate diarrhea and constipation, pain, weight loss, intestinal obstruction, tenesmus, wasting, and cachexia are not early manifestations of the disease, though they are too often present before the diagnosis of rectal cancer is made. In our experience they are invariably associated with large advanced lesions, frequently inoperable and incurable.

To record, in sequence, symptoms caused by carcinoma of the rectum is difficult if one desires to emphasize early manifestations of the disease. Confusion is added by the fact that many intestinal conditions produce the clinical picture of carcinoma. Unfortunately, the early, almost unnoticed changes in bowel habits produced by rectal cancer often mislead the physician because they are easily relieved by bland diets and mineral oil. The early symptoms of rectal cancer may be summed up by the statement that any mild symptom that is sufficient to attract the patient's attention to this part of his anatomy may be a symptom of cancer. In these patients the first recognizable symptoms of their rectal

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Discussion

Dr. E. G. Waters, *New York City*—It must be apparent to one who considers the anatomy of the pelvis, and especially fascial distribution, that there are but two feasible anatomic approaches to the uterus by an extraperitoneal route. One is a paravesical approach with lateral displacement of the bladder, and the other is a supravesical approach.

The paravesical approach was first proposed in

1806 by Joerg and was first performed by Ritgen in 1821. Thomas in 1871 and Asa B. Davis in 1915 and 1924 reported experiences with an operation embodying the same approach. In 1909 Latzko again made a paravesical approach to the uterus but entered the abdomen in a totally different manner. He used a left lower rectus approach, distending the bladder to outline it and to reach the extraperitoneal space, thus avoiding the inguinal incisions of the other operators. The supravesical approach was first proposed by Physick in 1824, and unsuccessful attempts were made to develop a satisfactory technic in 1908 by Frank and in 1909 by Sellheim.

The first series of 32 cases which I reported in 1939, illustrating anatomic principles not previously given sufficient attention, represents a utilization of the second or supravesical type of approach. I wish to compliment Drs. Pieri and Irving on the excellence of their presentation and for the pictures we have seen here. We are convinced from our own experience with the operation that it fills a place in operative obstetrics for the management of the potentially and actually infected case in labor better than any other procedure with which we have had experience. We have, at this time, more than 150 patients operated on by the supravesical approach according to the technic I first outlined in 1937, with but 1 death. As a matter of fact, mortality in this group of cases, representing the worst risks where the highest mortality figures might be expected, actually shows a lower mortality rate than for all other forms of cesarean sections performed on so-called "clean cases."

Obviously, this is not an operation for the tyro or the occasional obstetric operator. It demands a theoretic and working knowledge of pelvic anatomy, especially of the investing endopelvic fascia. It has completely displaced Porro, Portes, and similar operations in our clinic. Many "borderline" cases have avoided cesarean operations by getting more adequate trial labors. With an operation of this sort in reserve, one needs to hasten less. We confidently believe that further experience by those whose combination of pelvic anatomic knowledge, operative ability, and obstetric judgment is good will prove the operation a safe procedure for use on the worst cases we encounter.

The experiences of Dr. Eisaman in Pittsburgh, Drs. Irving and Pieri, and others now employing this technic seem to justify this confidence.

A Vicar had been beaten badly on the golf links by a parishioner thirty years his senior, and he was rather disgruntled. "Cheer up," his opponent said. "Remember, you win at

the finish. You'll probably be burying me some day."

"Even then," said the Vicar, "it will be your hole."
—Canadian Doctor

Mucus.—Mucus is a common finding in conditions producing prolonged frequency of stool. This too often leads to the diagnosis of colitis when the real disease is a precancerous polyp or a carcinoma. The mucus resulting from carcinoma is usually accompanied by frequent stools, pus, blood, and foul-smelling flatus. It is indicative of ulceration and advanced disease. The presence of mucus was noted by 31 patients at the time of admission. In only 1 case was it the first symptom noted.

Other Symptoms.—Other symptoms frequently seen have been summarized in Table 2 and need not be taken up in detail. They are all evidence of well-established disease.

Duration of Disease Before Treatment

The duration of disease for each patient was computed from the onset of symptoms that could be interpreted as due to cancer. All patients considered were admitted to the free clinic of the Memorial Hospital. In some instances they had delayed seeking medical care because of their inability to pay for private medical service. Others delayed because they failed to recognize the seriousness of their symptoms; still others, because they suspected the presence of cancer and feared the truth. The average interval from onset of symptoms to seeing a physician was eight and nine-tenths months. Rosser⁵ reports an average time from onset of symptoms to operation of ten months. Shedden⁶ states that 63 per cent of his 111 cases delayed four or more months before diagnosis was made and that 41 per cent delayed seeking medical opinion two months or more. Brindley,² in a review of 167 cases, finds an average duration of symptoms before examination of nine months, and in those patients with inoperable lesions it averaged fourteen months.

Eight of our 108 patients came directly to the clinic and had not seen a physician prior to their admission. Of the remaining 100 patients, an accurate diagnosis was made early in 25, and they were referred to the clinic within one month from the day they first sought medical opinion. In the remaining 75 patients there was an average additional delay of nine and nine-tenths months from the time they sought medical advice until they were referred to the clinic. Analysis of Table 3 indicates that 69.4 per cent of the 108 patients remained untreated for an average of eighteen and eight-tenths months after the onset of symptoms. One-half of

TABLE 3.—DURATION OF DISEASE BEFORE TREATMENT

	Number of Patients	Average Delay, Months
Before seeking medical advice, all patients	108	8.9
Admitted without previous medical advice	8	
Referred within one month after seeking medical advice	25	
Referred later than one month after seeking medical advice	75	
Delay after seeking medical advice before referral to the clinic	75	9.9
Duration of disease before admission	75	18.8

this delay interval was due to the failure of physicians to make the correct diagnosis.

It is the duty of every physician to make a careful rectal examination of every patient who presents himself with a complaint referable to any part of the gastrointestinal tract. The procedure is simple, being easily performed in the office. The only prerequisite for a satisfactory examination is that the bowel must be thoroughly cleansed. This is accomplished by the oral administration of castor oil or licorice powders the day before. Should there be a suspected obstruction, we prefer cleansing the rectum with enemas.

Rectal examination consists of inspection of the perianal skin, palpation of the anal canal and lower rectum with the finger, and inspection of the lower sigmoid, rectum, and anal canal by means of suitable instruments. The preliminary examination may be carried out in the Sims position. By having the patient bear down, the physician is able to palpate the upper limits of the rectum. Sigmoidoscopic examination is performed with the patient in the knee-chest position, the knees separated about 8 inches, the head turned to one side, and the side of the patient's face resting on the examining table. If the face is turned to the right, the left arm and forearm are placed beneath the patient, permitting the patient's left shoulder to rest on the table. This prevents the tendency of the patient to crawl forward during proctoscopy. The back must be flat or scaphoid, never arched. An electrically lighted, well-lubricated sigmoidoscope is passed, and careful inspection is made of the lower sigmoid, rectum, and anal canal. Should a tumor be found, a confirmatory biopsy must be taken in every instance. The presence of streaks of mucus or blood on the wall of the rectum may denote a tumor above the field of vision.

X-ray studies may often fail to reveal the presence of lesions in the rectum proper, even

TABLE 1.—FAMILY HISTORY OF PATIENTS WITH RECTAL CANCER

Patients with no history of cancer in family, 77		
Patients with history of cancer in family, 31		
Relationship of Member Who Had Cancer	Rectal Cancers	Other Types
Fathers	1	9
Mothers	3	4
Sisters	1	7
Brothers	4	6
Maternal aunts	1	1
Paternal aunts		1
Paternal uncles		1
Paternal grandfathers		1
Paternal great uncles		1
Total	10	31

TABLE 2.—SYMPTOMS NOTED BY 108 PATIENTS WITH RECTAL CANCER

Symptoms of Rectal Cancer	First Symptom	Noted Before Admission
Blood in the stool	32	87
Constipation	30	51
Flatus	28	47
Diarrhea	12	36
Pain	4	36
Mucus in the stool	1	31
Loss of weight	0	20
Change in size of stool	0	18
Tenesmus	0	14
Obstruction	0	8
Loss of appetite	1	1

cancers were, in their order of frequency, blood in the stool, constipation, increase in flatus, diarrhea, pain, and mucus (Table 2).

Blood in the Stool.—Blood in the stool may have its origin in any portion of the alimentary tract and is frequently associated with rectal cancer. Persistent bright blood, unless associated with extreme diarrhea, is indicative of ulcerative pathology below the splenic flexure. Low-lying lesions may produce tarry stools if evacuation is delayed or if the physiologic action of the bowel moves the contents of the ampulla and rectosigmoid upward. Since hemorrhoids may cause bleeding, they sometimes result in an error in diagnosis. Shedden* reports that 36 of 111 cases of carcinoma of the rectum had a previous diagnosis of "piles." The cancer bleeding in the beginning may be only a faint pink in the toilet or on the cleansing paper. In other instances there may be frank hemorrhage of sufficient magnitude to produce ten or more evacuations of nothing but blood during a twenty-four-hour period. The passing of blood with the stool was the first symptom noted by 32 of our patients; 87 of the group had rectal bleeding at some time prior to admission.

Constipation.—The word "constipation" is an indefinite term. By constipation, as an early symptom, we mean a sudden or gradual onset of difficulty in securing a good evacuation where there had previously been soft,

well-formed, daily stools. As the bowel sluggishness progresses, large doses of cathartics are often taken without satisfactory elimination. Rarely have we seen the clinical picture of constipation alternating with diarrhea, a condition so frequently described in textbooks. Fifty-one of our patients complained of constipation as one of the symptoms of their disease; in 30 it was the first symptom.

Flatus.—In 28 patients an appreciable increase in flatus was the first symptom of their disease. It was noted by 47 before admission. Flatus is usually considered dietary, but in an individual eating his customary diet we believe it has definite clinical significance and should lead to a suspicion of neoplasm in the large bowel. It is often an early symptom of rectal cancer and is readily noticed by the patient because of the foul odor due to sloughing of tumor tissue. In 2 patients it was the only symptom at the time of admission and was the cause of their seeking medical aid.

Diarrhea or Frequent Bowel Movements.—Although diarrhea is a common symptom of cancer of the rectum and was noted by 36 of our patients before coming to the clinic, it was the first symptom in only 12 cases. It is usually associated with a large, ulcerated, infected lesion and consists of the frequent passage of mucus, blood, liquid feces, and foul-smelling flatus.

Pain.—Pain from cancer of the rectum is due to any one of three causes or to a combination of the three. Frequent evacuations may produce acute, severe anal pain. There may also be pain or ache referred to the buttocks or over the coccyx and sacrum. The second type of pain produced by partial obstruction is colicky and is relieved by expelling flatus or stool. It comes and goes, being readily produced should the patient be subjected to undue nervous strain. Colicky, cramplike pain is located chiefly in the lower left abdominal quadrant and is more marked with lesions about the rectosigmoid junction. The lumen need be only mildly constricted by an annular or pedunculated lesion to produce such pain. The third type of pain is that produced by invasion or compression of the regional sensory nerves. This is a relatively late symptom and indicates perirectal extension or involvement of the anal canal. The patients describe it in the beginning as an ache in the region of the lower sacrum and coccyx. In the present group of patients only 4 had pain as an initial symptom, while 36 had pain at the time of admission.

Summary

1. The great progress made in the last twenty-five years in the treatment of cancer of the rectum has not been accompanied by a corresponding improvement in making an early diagnosis.

2. Thirty-one of 108 patients gave a definite history of cancer in 41 blood relatives, 10 of whom had cancer of the rectum.

3. The early symptoms of rectal cancer simulate the symptoms of inflammatory disease of the anus and rectum. The symptoms listed here and in the literature are symptoms of unknown pathology that on proper examination may prove to be due to a well-established cancer.

4. The 108 patients sought medical advice on an average of eight and nine-tenths months after the onset of symptoms attributable to their rectal cancer.

5. Of the 100 patients referred by their

family physicians, the disease was diagnosed without undue delay in 25, and they were referred within one month after their first visit. In 75 patients there was an additional average delay of nine and nine-tenths months before they were referred to the clinic. During this delay they received inadequate or improper therapy.

6. The delay in making immediate diagnosis was the result of the physician's failure to make a complete rectal examination or his inability to interpret his findings.

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DERMATOLOGY COURSE TO BE GIVEN

A course on dermatology has been arranged by Dr. George M. Mackee, New York Skin and Cancer Unit, New York Post-Graduate Medical School and Hospital, Columbia University, for the Montgomery County Medical Society. The lectures, to be held at the Elks Club, Amsterdam, New York, on Tuesday evenings at 8:30 P.M., follow:

January 6.—The Modern Conception of Allergy; Its Relation to Dermatology. (Lantern slides.)

Francis Pascher, M.D., instructor in dermatology and syphilology, New York Post-Graduate Medical School, Columbia University, New York City

January 13.—The Diagnosis and Treatment of Common Skin Diseases. (Exclusive of eczema, drug eruptions, cancer and syphilis.)

Laird S. Van Dyck, M.D., associate, Department of Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University, New York City

January 20.—The Modern Conception of Eczema with Special Reference to Dermatophytosis (Athletes' Foot). (Lantern slides.)

Royal M. Montgomery, M.D., instructor in dermatology and syphilology, New York Post-Graduate Medical School, Columbia University, New York City

January 27.—Drug Eruptions. (Lantern slides.)

E. W. Abramowitz, M.D., associate clinical professor of dermatology and syphilology, New York Post-Graduate Medical School, Columbia University, New York City

February 3.—The Diagnosis and Treatment of Cutaneous Cancer and Precancerous Lesions. (Lantern slides.)

Frank Fraser, M.D., consultant, Department of Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University, New York City

February 10.—Cutaneous Tuberculosis and Allied Conditions. (Lantern slides.)

Anthony C. Cipollaro, M.D., associate, Department of Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University, New York City

February 17.—The Diagnosis, Cutaneous Manifestations, and Clinical Course of Syphilis.

Girsch Astrachan, M.D., associate, Department of Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University, New York City

TABLE 4—TYPES OF EXAMINATION GIVEN PRIOR TO ADMISSION

	Patients
Digital only	37
X-ray only	9
Proctoscopy without biopsy	23
Proctoscopy with biopsy	11
No examination	20
Total	100

TABLE 5—NUMBER OF PHYSICIANS SEEN PRIOR TO ADMISSION

Patients	Physicians
54	1
31	2
11	3
3	4
1	5
8	0

TABLE 6—TREATMENT RECEIVED BY 77 PATIENTS PRIOR TO ADMISSION

	Patients
Diet and medicine	35
Hemorrhoidectomy	8
Injections for hemorrhoids	3
Fulguration	1
Attempt at local excision through the rectum	4
X-rays	2
Radon	4
Suppositories	7
Injections of vaccines made from excretions	4
Colonic irrigations with application of AgNO ₃	2
Application of AgNO ₃	2
Prostatic massages	1
Sitz baths	1
Olive oil enemas	1
Vitamin B pills	1
Abdominal belt	1
Total	77

when quite large. The rectum is capable of holding large quantities of barium and fills so readily that the lesion is often obscured unless the radiologist is especially astute and has been forewarned of the possibility of a low lesion; therefore, x-ray investigation of the terminal parts of the intestinal tract should not be employed prior to sigmoidoscopic examination.

Of the 100 referred patients, 20 had not received a rectal examination, their treatment having been based on their symptoms. Thirty-seven had received a digital examination, which should have been sufficient to make a tentative diagnosis had the examination been properly performed. In this group of patients over 90 per cent of the rectal cancers were within reach of the examining finger. Thirty-four of the group had received a proctoscopic examination prior to admission. Unfortunately, it was delayed in many instances until the disease was far advanced. A confirmatory biopsy had been obtained on only 11 patients. Nine patients had received only an x-ray examination. One patient had received a fluoroscopic examination

without the benefit of a contrast medium. Such an examination is only a gesture and has no diagnostic value (Table 4).

In Table 5 we show the number of physicians seen by each patient before being referred to the clinic. This shopping for medical care by 46 patients who saw from two to five physicians is evidence of the patients' dissatisfaction with, and failure to improve under, the prescribed treatment. In a few instances it was the direct result of being advised that an operation was essential. These patients, having the layman's dread of an operation, would seek further confirmation of its necessity.

Treatment Given Prior to Admission

Table 6 illustrates the numerous varieties of treatments that patients received prior to admission to the clinic. It is quite evident from this list that the diagnosis was in error except for the 6 patients who received inadequate irradiation.

Discussion

Every physician throughout his student and intern training has repeatedly been shown the importance of making a rectal examination, yet the frequency with which this single test is omitted, even in the presence of a history of objective rectal symptoms, is appalling.

From this review of the 108 patients there is conclusive evidence that the diagnosis of rectal cancer in clinic patients is open to great improvement. This improvement may be brought about in two ways: (1) by teaching the laity that any rectal symptom, no matter how mild, may be a symptom of rectal cancer and that all such symptoms should be carefully investigated by a private clinician or in a suitable clinic and that if by chance the symptoms should prove to be caused by cancer the possibility of the patient regaining his normal health is excellent, providing appropriate treatment is undertaken at once; (2) by educating the profession to recognize the danger signals and the importance of a thorough investigation of all rectal symptoms. No physician should ever treat any patient with rectal symptoms without first making a thorough rectal examination. Should a tumor be found, a confirmatory biopsy must be taken in every instance. It is impossible to overestimate the importance of a thorough rectal examination in all cases with rectal and intestinal symptoms.

tages of external application, such as irregular absorption in rate and amount of energy with inconstant, negative, or overdosage effects. Furthermore, in such event one might hope for the constant and safe production of certain of the beneficial physiologic effects already mentioned, e.g., the bactericidal effect, a detoxification effect, a rise in general resistance, etc.

Technic and Dosage

In 1934 Knott and Hancock³³ reported the rather spectacular recovery of 2 apparently moribund cases—1 of septicemia, 1 of brain abscess—following the ultraviolet irradiation of a predetermined amount of the individual's blood and immediate reinjection of that blood. The technic of this method of irradiating blood has since been somewhat modified by Knott and in its modified form is that referred to in this paper as the Knott technic of ultraviolet blood irradiation therapy.

The irradiation of blood with ultraviolet energy with a hemo-irradiator (Fig. 1) is made possible by a combination of three devices: (1) a modified Knott irradiation chamber, (2) an automatic transfusion pump, and (3) a water-cooled mercury-quartz burner.

The automatic transfusion pump allows blood to be pumped by propulsion through rubber tubing and through the Knott chamber at whatever rate is desired, thus carefully controlling the time of exposure to ultraviolet energy of each cubic centimeter of blood as it passes through the chamber. An intermittent exposure is obtained by a rotating shutter interposed between the irradiation chamber and the mercury burner.

The water-cooled type of mercury-quartz burner is used and is fastened approximately 1 cm. from the quartz window of the irradiation chamber through which the blood is pumped.

The clinical application of this combination consists of withdrawing a predetermined amount of venous blood from an individual citrating it (one part 2.5 per cent sodium citrate to five parts blood) and immediately returning it to the same individual through the hemo-irradiator to the vein from which it was withdrawn. The immediate return to the venous circulation of irradiated blood through a closed system obviates the rapid loss from irradiated blood of ultraviolet energy, which occurs if blood is, for example, spread out in open flat receptacles during irradiation.

In using this method it is necessary to be

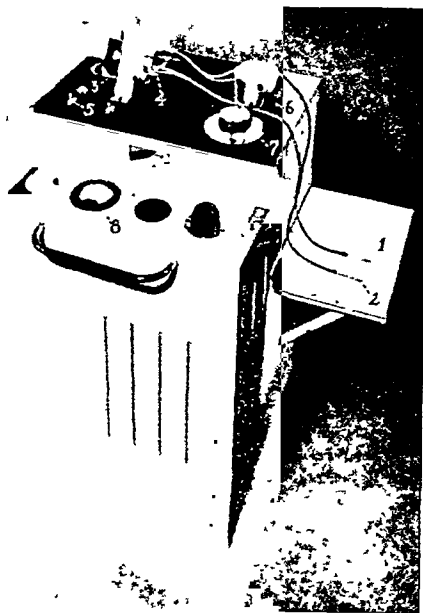


FIG. 1. Blood irradiation machine (hemo-irradiator). 1. Glass-tipped adapter for the suction or withdrawal end of the rubber tubing system. 2. Glass-tipped adapter for the intravenous or injection end of the system. This is fitted to a needle in the patient's vein. Citrated blood that has just passed through the irradiation chamber (see 4) and thus irradiated is returned to the venous circulation through this adapter. 3. Water-cooled, mercury-quartz burner, the source of high-intensity ultraviolet energy used in irradiating blood. 4. Knott irradiation chamber with quartz window held in contact with mercury-quartz burner. Blood is passed through this chamber, its time of exposure being carefully and automatically adjusted. 5. Hemo-irradiator starting switch. 6. Synchronized transfusion pump. 7. Dial regulating rate of flow and time of exposure. 8. Volt-meter.

sure that three important factors are kept constant. These are: (1) the amount of blood withdrawn and irradiated, (2) the time of exposure to ultraviolet energy, and (3) the intensity and the wavelength of the spectral energy used.

The amount of blood to be used is calculated from the formula $A = KW$, where A is the amount in cubic centimeters to be withdrawn, K is a constant (1.5 in this work), and W is weight expressed in pounds. The amount of blood used rarely exceeded 300 cc., as can readily be seen from the formula.

The time of exposure is considered to be the time required for the passage of 1 cc. of blood through the Knott irradiation chamber while exposed to the ultraviolet emanation

THE KNOTT TECHNIC OF ULTRAVIOLET BLOOD IRRADIATION IN ACUTE PYOGENIC INFECTIONS

A Study of 103 Cases with Clinical Observations on the Effects of a New Therapeutic Agent

GEORGE MILEY, M.D., D.Sc. (MED.), Philadelphia

FOR the past two and one-half years in 103 unselected cases of acute pyogenic infection we have successfully used the Knott technic of ultraviolet blood irradiation therapy as a method of controlling infection. This technic consists of withdrawing and citrating a carefully predetermined amount of a patient's blood and immediately passing it through a hemo-irradiator, a machine that properly irradiates the citrated blood and returns it intravenously to the patient. The hemo-irradiator is by design so constructed as to regulate all dosage factors and, by the precision of its operation, makes the administration of this therapy a safe and efficient procedure. In this paper we shall briefly review a few known biochemical and physiologic effects of ultraviolet energy, give the essential details of the Knott technic, and present the results obtained by us in controlling acute pyogenic infection. A correlation of the observed clinical effects of this therapy with several established biochemical and physiologic effects of ultraviolet will be made wherever this is possible.

The application to physical medicine of ultraviolet energy is not new but has been used for many years as a valuable therapeutic weapon. During these years much has been learned about the various biochemical and physiologic effects of ultraviolet irradiation.

The bactericidal properties of ultraviolet have long been recognized as due to much excellent pioneer work by Downes and Blount,¹ Ward² and, more recently, Coblentz,³ Bayne-Jones,⁴ Wyckoff,⁵ Bachem,⁶ and others.

The detoxification effect of ultraviolet is not generally known by the medical profession and certainly has not been emphasized enough when one considers the fine work of Jodlbauer and von Tappeiner⁷ and Noguchi⁸ early in the century and of Macht,⁹ Schubert,¹⁰ Welch,¹¹ etc., in their studies on detoxification with ultraviolet. Certainly, the inactivation of snake venoms and bacterial toxins are

examples of what may be accomplished by ultraviolet.

Vasodilation is commonly observed wherever ultraviolet energy is used. Studies on this mechanism have been reported by Balderrey and Barkus,¹² T. Lewis,¹³ Krogh,¹⁴ Ellinger,¹⁵ and Kawaguchi.¹⁶

Photosensitization and photodynamic effects must be mentioned because of the many photosensitive chemotherapeutic agents so widely used today. The early work of Jodlbauer and von Tappeiner^{17,18} laid the foundation for recent work by Epstein,¹⁹ Blum,¹⁰ and many others.

The effects on various proteins have been carefully studied and reported by Becker and Szendro,²¹ S. J. Lewis,²² W. C. M. Lewis,²³ Smith,²⁴ and Spiegel-Adolf.^{25,26,27}

The ability of blood irradiated with ultraviolet to absorb oxygen has been investigated by Mayerson and Laurens,^{28,29} Miley,³⁰ and Harris.³¹

Secondary emanatory phenomena have been observed to occur according to Wels,³² Becker and Szendro,²¹ and Rahn.³³

Finally, the effect on general resistance has been the subject of extensive work and has been reviewed carefully by Clark.³⁴ It is common knowledge that certain, as a rule rather low, dosages of externally applied ultraviolet radiations stimulate the general resistance of animals and human beings to infection.

In addition to these selected references, work in this field has been well described by Blum,³⁵ Duggar,³⁶ and Ellis, Wells, and Heyroth.³⁷

In attempting to use these known effects therapeutically, it had been found necessary to depend on external application. Valuable though such a method may be when local effects are desired, it is, nevertheless, subject to many disadvantages contingent upon any attempt to obtain general or systemic effects by the external use of therapeutic agents. It is apparent, then, that if ultraviolet energy could be administered directly to the blood stream (i.e., intravenously) safely and efficiently in easily controlled dosage one might expect the elimination of certain disadvan-

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From the Hahnemann Medical College and Hospital of Philadelphia.

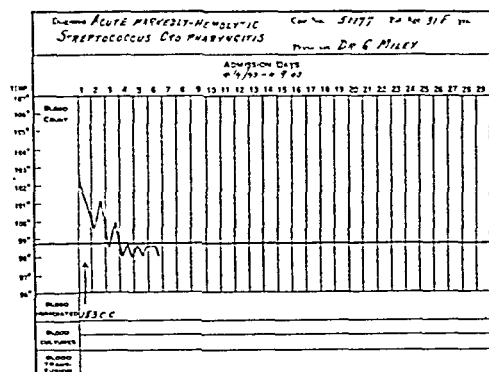


FIG. 2.

FIG. 2. CASE 1. Acute, markedly hemolytic streptococcal oropharyngitis. Ultraviolet blood irradiation therapy was administered immediately on the patient's admission to the hospital because of her rapidly progressing toxic symptoms. Throat cultures taken on admission showed a profuse growth of markedly hemolytic streptococci. Toxic symptoms subsided within twenty-four hours; throat culture became negative in seventy-two hours. She was discharged on the sixth day in excellent condition.

FIG. 3. CASE 2. Incomplete septic abortion; septic endometritis. Seven days of sulfanilamide therapy failed to improve this case, as did four days, withdrawal of sulfanilamide. Twenty-four hours following ultraviolet blood irradiation therapy the patient's toxic symptoms subsided completely and her temperature fell to normal. She convalesced uneventfully and was discharged from the hospital in apparently excellent condition on the twenty-first day, ten days after blood irradiation.

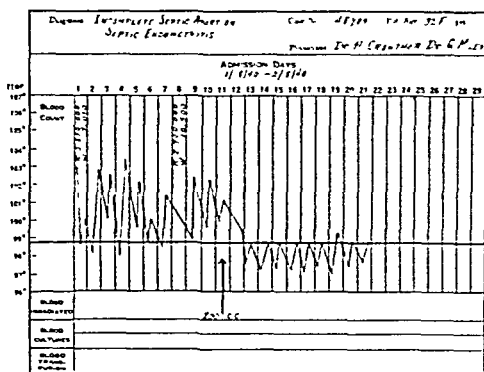


FIG. 3.

lowed up two and a half years later. Nor have there been observed any delayed harmful effects on kidney function or, in fact, on any body function. Although it is not the purpose of this paper to discuss these effects of ultraviolet blood irradiation therapy, it may be added that these findings correspond with those of other workers in this field, e.g., Rebbeck,³⁹ Knott and Hancock,³⁸ and Barrett,⁴⁰ as well as with our own findings in over 300 other individuals who have received this therapy for diseases of a more chronic nature.

Abstracts of Four Typical Case Histories

For the purpose of a more detailed observation of the results of this treatment there follows a series of brief abstracts of case histories of a few selected cases from Table 1.

Case 1 (see Fig. 2).—A woman, aged 31, was referred to the Hahnemann Hospital by Dr. G. Miley. A diagnosis of acute, markedly hemolytic streptococcal oropharyngitis was made.

The patient was admitted on April 4, 1940, complaining of generalized aching and chilliness and sore throat. Her temperature on admission was 102.1 F.

Blood irradiation therapy was instituted at 3:00 P.M. on the admission day. By 6:00 P.M. of the same day her temperature was 101.2 F. She was perspiring profusely. A blood culture taken April 4, 1940, was sterile after ninety-six hours' incubation. A culture from the throat taken April 4, 1940, showed numerous colonies of markedly hemolytic streptococci.

On April 5 and April 6 the patient's temperature still showed a slight rise in the afternoons to peaks of 101 F. on April 5 and 99.6 F. on April 6. A second throat culture taken April 5 still showed markedly hemolytic streptococci, but a culture taken from throat on April 6 showed only a few mildly hemolytic anaerobic streptococci. The patient's temperature was normal and remained so until the date of discharge, April 9, 1940, at which time her general condition was good.

Case 2 (see Fig. 3).—A woman, aged 32, was referred to the Hahnemann Hospital by Dr. H. Crowther.

She was admitted on January 28, 1940, complaining of abdominal pain and foul-smelling black vaginal discharge. She gave a history of having passed a small fetus two weeks earlier, following which the severe abdominal pain and discharge appeared. Physical examination revealed an extremely toxic patient with a temperature of 102.4 F.; pulse, 128; and respirations, 22. A routine blood count showed 3,850,000 red blood cells; 13.6 per cent, hemoglobin; and 9,050, white blood cells. A routine urinalysis was essentially negative. A provisional diagnosis of septic endometritis following spontaneous abortion was made. Sulfanilamide, 10 grains four times a day, was begun January 29. On January 30 the dose was increased to 20 grains every 3 hours, four doses daily. On the next day the patient became increasingly toxic and suffered from chills and her temperature rose to 103 F. The sulfanilamide level of blood rose to 8.2 mg. per hundred cubic centimeters. She continued to run a septic temperature, her

TABLE 1.—RESULTS IN CASES OF ACUTE PYOGENIC INFECTION GIVEN ULTRAVIOLET BLOOD IRRADIATION THERAPY AT THE HAHNEMANN HOSPITAL, PHILADELPHIA, FROM NOVEMBER 1, 1938 TO APRIL 1, 1941

	No. of Cases	Recovered	Died
<i>Early:</i>			
Puerperal sepsis	2	2	
Incomplete septic abortion	2	2	
Acute ulcerative gingivitis secondary to third molar abscess	2	2	
Acute furunculosis or carbuncle	7	7	
Acute Streptococcus hemolyticus oropharyngitis	1	1	
Acute pansinusitis	1	1	
Acute tracheobronchitis	1	1	
Acute pyelitis	1	1	
Wound infections	2	2	
Fever of undetermined origin	1	1	
<i>Moderately Advanced:</i>			
Puerperal sepsis	7	7	
Incomplete septic abortion	8	8	
Pelvic abscesses; pelvic peritonitis	7	7	
Peritonitis, generalized	10	10	
Wound infections	3	3	
Acute femoral thrombophlebitis	3	3	
Acute Streptococcus hemolyticus oropharyngitis	1	1	
Fever of undetermined origin	2	2	
Bronchopneumonia	1	1	
Acute osteomyelitis, advanced nephrosis	1		1
Acute cholecystitis, cholelithiasis	1	1	
Double otitis media	1	1	
Streptococcus viridans septicemia secondary to parotitis	1	1	
Acute suppurative hemorrhagic cystitis	1	1	
<i>Apparently Moribund:</i>			
Puerperal sepsis	2	2	
Incomplete septic abortion, hemorrhagic shock	2		2
Peritonitis, generalized	1	1	
Appendical abscess	1	1	
Pelvic abscesses, pelvic peritonitis	5	4	1
Wound infections	1	1	
Fever of undetermined origin	2	1	1
Lobar pneumonia	2	1	1
Bronchopneumonia	1	1	
Pyelonephritis, cystitis, secondary to bladder carcinoma	1		1
Rectal abscesses, cystitis, ileitis, advanced arteriosclerosis	1		1
Bacillus coli abscess of scrotum	1	1	
Streptococcus hemolyticus oropharyngitis complicating mastoidectomy	1	1	
Extensive trauma, terminal bronchopneumonia	1		1
<i>Septicemias:</i>			
Staphylococcus aureus	4	4	
Staphylococcus albus secondary to Staphylococcus albus pneumonia	1		1
Streptococcus hemolyticus	2	2	
Streptococcus nonhemolyticus	2	1	1
Streptococcus viridans subacute bacterial endocarditis	4		
Streptococcus nonhemolyticus endocarditis	1		1
	Early	Moderately Advanced	Apparently Moribund
<i>Summary:</i>			
Number of cases	20	47	36
Number recovered	20	46	17
Percentage recovered	100	98	47
Number died	0	1	19
Percentage died	0	2	53

described below; the average time of exposure in this work was ten seconds.

In irradiating blood ultraviolet wavelengths within the range, from 2,399 to 3,654 angstrom units were used. The intensities corresponding to the wavelengths used are shown in this table:

Å	mW/cm. ²	Å	mW/cm. ²
2,399	55,000	2,967	224,000
2,483	88,000	3,022	435,000
2,436	273,000	3,125-3,132	718,000
2,652	239,000	3,342	73,000
2,753	86,000	3,473	41,000
2,804	139,000	3,650-3,654	1,538,000
2,897	96,000		

The technic of administration consists, briefly then, in the withdrawal of a calculated amount of blood from a patient's vein, usually from an arm vein. It is then stirred gently with 2.5 per cent citrate, one part of citrate solution to five parts of blood. This citrated mixture is then poured through sterile gauze into a transfusion buret from which it is returned by the action of the synchronized electric transfusion pump of the hemo-irradiator to the patient's venous circulation.

Tabulation of Results

All cases of acute pyogenic infection given ultraviolet blood irradiation at Hahnemann Hospital, Philadelphia, up to April 1, 1941, are included in this report. The majority (63) of the cases reported received no form of chemotherapy; a minority (40) were admittedly chemotherapeutic failures.

The results of the use of this therapy in the treatment of cases of acute pyogenic infection can most readily be seen in tabular form in Table 1. This table is divided into three classifications according to the degree of toxic symptoms present at the time of the first irradiation—namely, as early, moderately advanced, or apparently moribund.

It will be observed from a study of Table 1 that 100 per cent of the early, and 98 per cent of the moderately advanced, cases recovered; moreover, 47 per cent of the apparently moribund cases recovered. Obviously, the earlier the treatment was applied the better were the results obtained.

In none of the cases treated has there been observed any harmful delayed effects, such as deleterious effects on the blood itself, as can be judged by the presence of normal red and white cell count and structure, as well as normal hemoglobin content in patients fol-

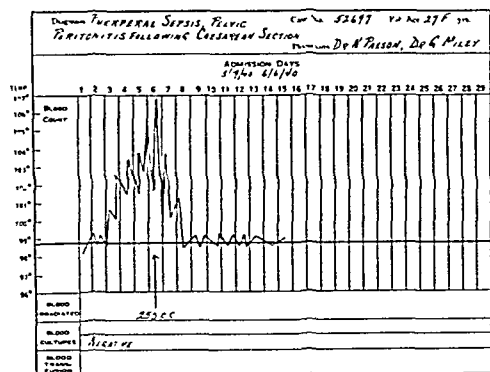


FIG. 4.

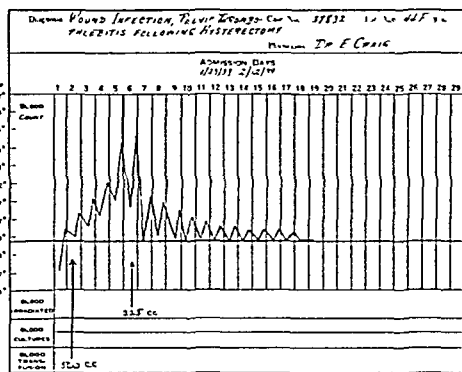


FIG. 5.

FIG. 4. CASE A.M.2, puerperal sepsis; pelvic peritonitis following cesarean section. Patient's condition became increasingly critical, despite sulfanilamide. Twenty-four to thirty-six hours following blood irradiation on the sixth day her high fever and toxic symptoms subsided. She was discharged on the sixteenth day of hospitalization, ten days after blood irradiation.

FIG. 5. CASE M.A.14, wound infection, pelvic thrombophlebitis following hysterectomy. Following hysterectomy this patient failed to run a normal postoperative course. Instead there developed a wound infection and a probable pelvic thrombophlebitis with increasingly severe toxic symptoms. On the fourth day following operation, blood irradiation therapy was instituted. Patient's toxic symptoms subsided within twenty-four hours; her wound infection rapidly disappeared. She convalesced uneventfully and was discharged in excellent condition thirteen days later.

gen tent was discontinued, and his distention was greatly lessened. The next day, December 11, dyspnea and cyanosis reappeared and blood irradiation therapy was repeated. The next morning the dyspnea and cyanosis disappeared. At this time the Wangenstein tube was prematurely removed and patient again became distended. A blood transfusion was given and the Wangenstein apparatus was reapplied on December 13. The patient became somewhat dyspneic and toxic symptoms began to reappear. Blood irradiation was given a third time. On the following day his general clinical condition was greatly improved. His abdomen was almost normally soft and peristalsis, which had disappeared the previous day, was re-established. From this point on he began to improve. It was possible for the first time to remove gradually all drainage tubes. On December 20 secondary suture of the abdominal wound was done, and the patient continued to convalesce uneventfully and was discharged from hospital in apparently fine condition on January 14, 1939.

In order to show a more detailed picture of the effect of ultraviolet blood irradiation therapy on septic temperatures, a series of graphs of peak temperatures selected from cases reported in Table 1 (see Figs. 4 to 7) are shown. These are typical of the whole group presented in this paper.

General Clinical Observations

During this work several rather outstanding clinical events were noted, and their relation to the known physiologic effects of ultraviolet

mentioned earlier in this paper have been correlated insofar as possible. These may best be summarized as follows:

1. The bactericidal effect has been noted throughout this work. A complete disappearance of the invading bacterial organism was found to occur except in cases of *Staphylococcus aureus* septicemia and in cases of subacute bacterial endocarditis.

2. The detoxification effect, to me, has been the most striking of all effects observed in cases of acute pyogenic infection following ultraviolet blood irradiation therapy. There occurs in these cases almost uniformly, twelve to seventy-two hours following this therapy, a pronounced subsidence of toxic symptoms, such as nausea, vomiting, delirium, fever, general malaise, rapid pulse, rapid respiration, etc. In this connection we have observed that there often occurs a marked fall in abnormally high temperatures. If, however, abscess formation is present or occurring, the abnormally high temperature will drop to a level slightly above normal; in such cases all toxic symptoms usually disappear and the elevated temperature drops to normal upon drainage of the abscess. In fact, we have found a disappearance of toxic symptoms in combination with a slightly elevated temperature following ultraviolet blood irradiation therapy to be pathognomonic of abscess formation.

3. Grossly discernible peripheral vasodila-

general condition became worse, and her sulfanilamide blood level dropped to 3.4 mg. per hundred cubic centimeters on February 4, on which day her red blood cells were 2,900,000; hemoglobin, 10.1 per cent; and white blood cells, 10,050. On February 6 and February 7 the patient's condition became extremely critical. Since sulfanilamide had failed, it was stopped at 10:00 a.m. on February 7.

Blood irradiation therapy was instituted at 2:00 p.m. on February 7. On the following day the patient appeared slightly improved generally. Her temperature fell to 99.4 F. On February 9 the temperature fell to 98 F. Her clinical condition, forty hours following blood irradiation, was strikingly improved at this time, and from this point on she convalesced uneventfully, leaving the hospital in apparently excellent health on February 18, 1940.

Case 3.—A girl, aged 18, was referred to the Hahnemann Hospital by Dr. D. A. Roman. A diagnosis of puerperal sepsis with probable staphylococemia and eclampsia was made.

The patient, who had been attending prenatal clinic because of increasing signs of pre-eclampsia, was admitted at term on April 3, 1940, complaining of nausea and severe headache during the twelve hours previous to admission. A physical examination revealed the following signs of impending pre-eclampsia: ankle and facial edema, blood pressure of 152/102, 4 plus albuminuria, and the presence of waxy granular casts in the urine. A routine blood examination showed 3,810,000 red blood cells, 12.7 per cent hemoglobin, and 11,300 white blood cells. Three hours after admission she began to have mild convulsions. Cesarean section was advised and performed immediately. Eclampsia continued the day following cesarean section. Two days after the operation, April 5, albuminuria was greatly decreased and the patient began to improve, her blood pressure falling steadily. Her temperature continued to fluctuate between 98 and 101.4 F. for the first fourteen days after cesarean section. In the meantime, on April 11 she had been transferred to the septic ward. Her general condition remained good and, despite an occasional temperature rise, she appeared to be improving in every respect until April 18 when her temperature rose to 102.6 F. at which time she complained of pain in her left leg. At this time a physical examination revealed no evidence of phlebitis. Her left leg pain continued and the temperature of 102 F. persisted. At this time, despite the absence of inflammatory signs, a diagnosis of phlebitis of the left leg was made on April 21. At this time the patient became moderately toxic, and mild convulsions appeared.

Blood irradiation therapy was instituted on April 22. The following day her temperature fell to 98.4 F. and then rose to 102.8 F., her condition being generally unchanged. One blood culture taken on April 22 proved negative; one

taken immediately before irradiation showed numerous colonies of *Staphylococcus albus*; one taken on April 24 was negative. On April 24 the patient was generally improved; her left leg pain and convulsions had disappeared completely, but her temperature remained elevated for the next three days. Blood irradiation therapy was repeated on April 27. In the next twenty-four hours the patient's condition improved markedly. Her temperature fell to 98.4 F., rose to 100.4 F., and fell immediately to 98.2 F. From this point on, she convalesced uneventfully and was discharged from the hospital in apparently excellent condition May 3, 1940.

Case 4.—A man, aged 52, was referred to the Hahnemann Hospital by Dr. L. Bower. A diagnosis of acute gangrenous appendix, generalized peritonitis, complicated by paralytic ileus and lobar pneumonia was made.

The patient was admitted on December 2, 1938, suffering from acute abdominal shock and giving a history of acute abdominal pain with nausea and vomiting twenty-four hours prior to admission. A physical examination revealed the probable presence of acute appendicitis. A routine urinalysis was negative. There were 20,250 leukocytes and 89 per cent neutrophils. He was operated upon on December 2 and a gangrenous appendix was removed. Appendectomy was followed by colostomy via lumen of the base of the appendix. A penrose drain was inserted, the peritoneum was closed, and the skin wound was packed with iodoform gauze.

The day following the operation he apparently developed right-sided atelectasis accompanied by dyspnea. His temperature rose to 102 F. On December 5 the patient was placed in an oxygen tent and later that evening an increasing abdominal distention was noticed and his temperature rose to 103 F. No peristalsis could be found and a diagnosis of acute widespread peritonitis was made. Prontosil was started, 20 cc. daily. On December 6 the peristalsis remained absent, and a blood transfusion was given. This was repeated December 8. The patient became more and more dyspneic and prontosil was stopped; his toxic symptoms increased; rales were heard over a widespread pulmonary area; and increasing leg and ankle edema became apparent. On December 9 he became markedly cyanotic, dyspnea became advanced, abdominal distention increased, he apparently was succumbing to an overwhelming toxemia, secondary to his peritonitis, paralytic ileus, and intrapulmonary complications.

Blood irradiation therapy was instituted on December 9. A few minutes afterward the patient's cyanosis had disappeared, his skin became quite pink, his dyspnea was markedly relieved, and he slept well throughout the night following blood irradiation therapy, the first sleep he had had since admission. The following day he appeared markedly improved in every respect. Peristalsis had reappeared, the oxy-

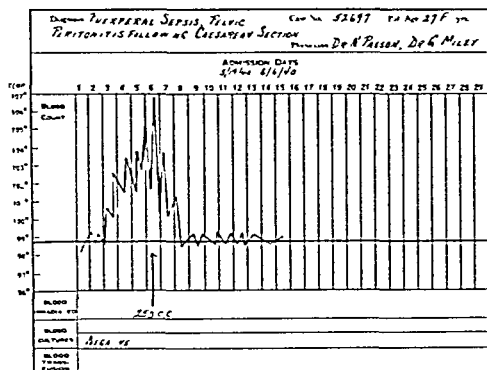


FIG. 4.

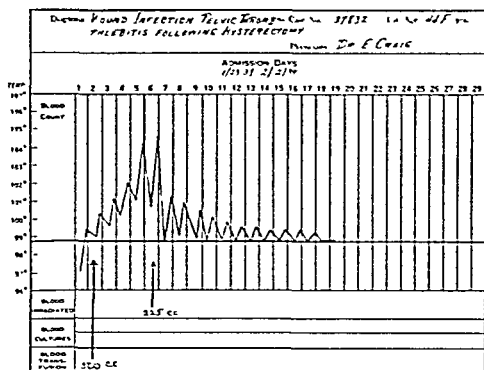


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1. The bactericidal effect has been noted throughout this work. A complete disappearance of the invading bacterial organism was found to occur except in cases of *Staphylococcus aureus* septicemia and in cases of subacute bacterial endocarditis.

2. The detoxification effect, to me, has been the most striking of all effects observed in cases of acute pyogenic infection following ultraviolet blood irradiation therapy. There occurs in these cases almost uniformly, twelve to seventy-two hours following this therapy, a pronounced subsidence of toxic symptoms, such as nausea, vomiting, delirium, fever, general malaise, rapid pulse, rapid respiration, etc. In this connection we have observed that there often occurs a marked fall in abnormally high temperatures. If, however, abscess formation is present or occurring, the abnormally high temperature will drop to a level slightly above normal; in such cases all toxic symptoms usually disappear and the elevated temperature drops to normal upon drainage of the abscess. In fact, we have found a disappearance of toxic symptoms in combination with a slightly elevated temperature following ultraviolet blood irradiation therapy to be pathognomonic of abscess formation.

3. Grossly discernible peripheral vasodila-

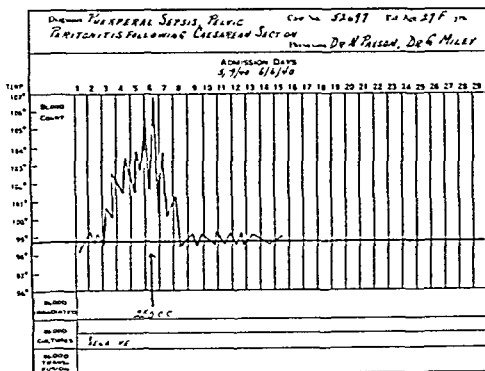


FIG. 4.

FIG. 4. CASE A.M.2, puerperal sepsis; pelvic peritonitis following cesarean section. Patient's condition became increasingly critical, despite sulfanilamide. Twenty-four to thirty-six hours following blood irradiation on the sixth day her high fever and toxic symptoms subsided. She was discharged on the sixteenth day of hospitalization, ten days after blood irradiation.

FIG. 5. CASE M.A.14, wound infection, pelvic thrombophlebitis following hysterectomy. Following hysterectomy this patient failed to run a normal postoperative course. Instead there developed a wound infection and a probable pelvic thrombophlebitis with increasingly severe toxic symptoms. On the fourth day following operation, blood irradiation therapy was instituted. Patient's toxic symptoms subsided within twenty-four hours; her wound infection rapidly disappeared. She convalesced uneventfully and was discharged in excellent condition thirteen days later.

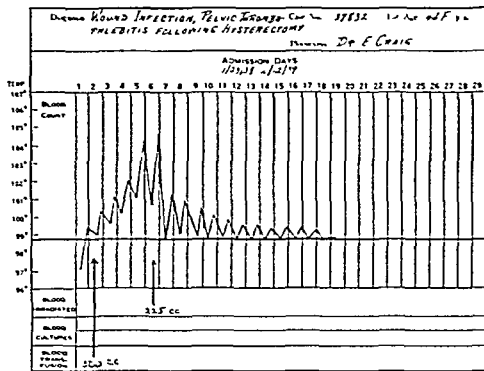


FIG. 5.

gen tent was discontinued, and his distention was greatly lessened. The next day, December 11, dyspnea and cyanosis reappeared and blood irradiation therapy was repeated. The next morning the dyspnea and cyanosis disappeared. At this time the Wangenstein tube was prematurely removed and patient again became distended. A blood transfusion was given and the Wangenstein apparatus was reapplied on December 13. The patient became somewhat dyspneic and toxic symptoms began to reappear. Blood irradiation was given a third time. On the following day his general clinical condition was greatly improved. His abdomen was almost normally soft and peristalsis, which had disappeared the previous day, was re-established. From this point on he began to improve. It was possible for the first time to remove gradually all drainage tubes. On December 20 secondary suture of the abdominal wound was done, and the patient continued to convalesce uneventfully and was discharged from hospital in apparently fine condition on January 14, 1939.

In order to show a more detailed picture of the effect of ultraviolet blood irradiation therapy on septic temperatures, a series of graphs of peak temperatures selected from cases reported in Table 1 (see Figs. 4 to 7) are shown. These are typical of the whole group presented in this paper.

General Clinical Observations

During this work several rather outstanding clinical events were noted, and their relation to the known physiologic effects of ultraviolet

mentioned earlier in this paper have been correlated insofar as possible. These may best be summarized as follows:

1. The bactericidal effect has been noted throughout this work. A complete disappearance of the invading bacterial organism was found to occur except in cases of *Staphylococcus aureus* septicemia and in cases of subacute bacterial endocarditis.

2. The detoxification effect, to me, has been the most striking of all effects observed in cases of acute pyogenic infection following ultraviolet blood irradiation therapy. There occurs in these cases almost uniformly, twelve to seventy-two hours following this therapy, a pronounced subsidence of toxic symptoms, such as nausea, vomiting, delirium, fever, general malaise, rapid pulse, rapid respiration, etc. In this connection we have observed that there often occurs a marked fall in abnormally high temperatures. If, however, abscess formation is present or occurring, the abnormally high temperature will drop to a level slightly above normal; in such cases all toxic symptoms usually disappear and the elevated temperature drops to normal upon drainage of the abscess. In fact, we have found a disappearance of toxic symptoms in combination with a slightly elevated temperature following ultraviolet blood irradiation therapy to be pathognomonic of abscess formation.

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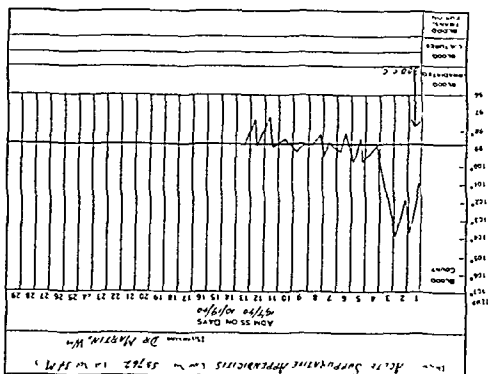


Fig. 7.

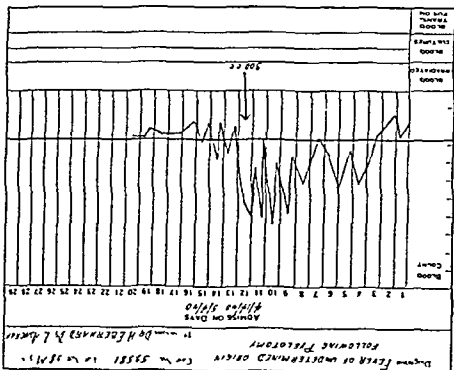


Fig. 6. Case M. A. 38, acute suppurative appendicitis. Immediately following removal of a ruptured appendix, blood irradiation was used, and within twenty-four hours the patient's toxic symptoms began to subside. At the end of forty-eight hours his temperature dropped to normal, and he was discharged on the thirteenth day.

Fig. 7. Case M. A. 19, fever of undetermined origin following pyelotomy. The temperature dropped to normal and the toxic symptoms subsided twelve to twenty-four hours following ultraviolet blood irradiation therapy. The patient was discharged in good condition on the twentieth day of hospitalization.

tion has been observed in over 75 per cent of all individuals given ultraviolet blood irradiation therapy. This occurs within five to ten minutes after the irradiated blood has been returned to the venous circulation and persists in some individuals for more than thirty days.

4. Photosensitization and photodynamic effects have been carefully considered in this work, although there is neither time nor space here to present these studies. We have made a few fundamental observations regarding the combined use of chemotherapeutic agents, especially sulfanilamide derivatives, quinine, and iodides with ultraviolet blood irradiation therapy. These are, briefly: (a) Ultraviolet blood irradiation therapy can be given safely and with impunity following the administration of sulfanilamide derivatives, quinine, and iodides; however, those patients who have not received "sulfas" drugs prior to blood irradiation have a much shorter convalescent period. (b) Sulfanilamide, sulfapyridine, and iodides cannot be given safely within the first five days following ultraviolet blood irradiation therapy without risking a probable photosensitive reaction in the form of markedly increased toxemia, pulmonary edema, and renal shutdown. In the case of photodynamic action observed with sulfathiazole (given seven days after ultraviolet blood irradiation therapy) marked convulsions were seen; no serious effects have been seen with the administration of quinine in the first few days following this therapy.

9. A complete absence of deleterious effects has been noted in this work with acute pyogenic infections. Earlier this year I¹¹ reported that in individuals with initially normal red cell, white cell, and hemoglobin values there was observed to be little, if any, change one to thirty-six months following ultraviolet blood irradiation therapy carried out strictly in accordance with the technique and dosage described above. Similarly, we may add that in patients receiving blood irradiation for acute pyogenic infection and having abnormal hemoglobin, red cell, and white cell values before treatment all these disappear, changing

7. Secondary emanatory phenomena present difficult problems for careful analysis. At this time no statement can be made. Knott was able to fog a photosensitive film in a darkroom with the serum of blood irradiated according to the above-described technique.

8. General resistance, as may be expected in the light of the previously mentioned observations, was obviously increased.

5. The effects on various proteins have not yet been carefully studied by us, and we are unable to make any statement with regard to these at this time.

6. The ability of ultraviolet irradiated blood to absorb oxygen has been studied by me,¹⁰ and in this work it was found that in patients with abnormally low venous oxygen values following ultraviolet blood irradiation therapy there was a marked increase in the uptake of oxygen as shown by a definite rise toward normal of venous oxygen values.

to normal following hemo-irradiation. We have been unable to find delayed harmful effects of any nature in over 1,000 applications of the Knott technic of ultraviolet blood irradiation.

Up to the time of the writing of this paper, in the treatment of cases of acute pyogenic infection uncomplicated by septicemia we have never seen an infection progress to the point where a septicemia has ensued.

We have often seen, as have others, a complete failure of chemotherapeutic agents insofar as controlling the infection is concerned. Many of these cases have responded to ultraviolet blood irradiation therapy subsequent to chemotherapeutic failure. We have yet to witness a case in which ultraviolet blood irradiation therapy failed and chemotherapy succeeded.

The above clinical observations are in close agreement with those made by others working with the Knott technic of ultraviolet irradiation of blood—notably, Hancock,³³ Rebbeck,³⁹ and Barrett.⁴⁰

Summary

1. A method of irradiating human blood, that originally devised, and recently modified, by Knott, is described.

2. The amount of blood used (predetermined according to approximate body weight), the time of exposure (optimally ten to twelve seconds in the treatment of acute pyogenic infections), and the wavelengths and intensity of the spectral energy used form the basis for estimating and maintaining a relatively constant dosage.

3. A report of cases of acute pyogenic infection treated at Hahnemann Hospital over a period of twenty-nine months is given; the clinical response has been consistently excellent.

4. A rapid subsidence of toxic symptoms with subsequent recovery in all of the early cases, all of the moderately advanced cases, and in some of the apparently moribund cases of acute pyogenic infection was found to occur. Other beneficial physiologic effects—e.g., bactericidal effect, vasodilation, venous oxygen increase—were observed to occur following this therapy.

5. As yet, no case of acute pyogenic infection uncomplicated by septicemia, after receiving ultraviolet blood irradiation therapy according to the Knott technic, progressed to a septicemia.

Conclusion

1. The Knott technic of irradiating blood with ultraviolet must be considered, in view of the various physiologic effects it produces, a method of applying ultraviolet energy intravenously.

2. This method has been found to be valuable for controlling acute pyogenic infections rapidly and efficiently.

3. The technic described is essentially a hospital procedure, at present. It requires careful training in its use and when properly administered is without harmful aftereffects.

4. Experience with the Knott technic of irradiating blood has convinced us that it offers more to the patient suffering from acute pyogenic infection than any other therapy yet known.

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This series included 1 case of fulminating erysipelas which had a really remarkable recovery. Immediately following ultraviolet blood irradiation therapy (i.e., twelve hours later) the rapidly advancing process had regressed markedly, the patient's toxic symptoms had disappeared, and the patient was discharged one week later in good condition.

6. Subacute bacterial endocarditis; in this group we had 10 cases and 10 deaths. All that pathology is a relief of toxemia. The focus of infection apparently cannot be reached, and we are working in this field feel that ultraviolet blood irradiation therapy does no good whatsoever insofar as final recovery is concerned.

7. Of the other 14 cases of septicemia treated there were 6 hemolytic streptococcal infections with 4 recoveries and 2 deaths. There were 5 cases of nonhemolytic streptococcal septicemia with 2 recoveries and 3 deaths. Also in this group were 3 colon bacillus septicemias with 2 recoveries and 1 death. One case of colon bacillus septicemia was accompanied by a Streptococcus hemolyticus septicemia but recovered. All of these cases that recovered were either treated by ultraviolet blood irradiation therapy alone or by ultraviolet blood irradiation therapy after chemotherapy had apparently failed to control the pathology. All of these patients with septicemia were in an advanced state before blood irradiation therapy was instituted.

8. We have found this therapy useful as a preoperative measure and believe our cases of major surgery convalesce better with than without its use.

A quick résumé of these cases of acute pyogenic infection shows 108 cases with 81 recoveries and 27 deaths; if we exclude subacute bacterial endocarditis, we find 81 recoveries out of 98 cases. Of these 98, 65 were moderately advanced when first seen and 33 were apparently moribund. Sixty-three of the moderately advanced cases recovered and 2 died; 15 of the apparently moribund cases (excluding subacute bacterial endocarditis) were not benefited by ultraviolet blood irradiation therapy and 18 recovered rather dramatically. Obviously, the earlier the cases were seen the better the results. Our results incidentally are in close accordance with those reported by Dr. Milley.

In conclusion, may I say it is my firm conviction that in the ultraviolet irradiation of autotransfused blood the medical profession has a therapy of marked value and, I believe, it will soon be recognized as an indispensable adjunct to the practice of good medicine and surgery.

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Discussion

Dr. E. W. Rebeck, Pittsburg—Dr. Milley is to be congratulated for his fine presentation of this subject. I am sure we have all enjoyed his paper.

In the Shadyside Hospital, Pittsburg, we have been using this type of therapy since June, 1937. We have treated approximately 1,400 patients and given approximately 3,000 blood irradiations, chiefly in cases of a chronic type resistant to all other therapy. In the case of these patients we have made studies of red and white cell count and structure, hemoglobin content and formation, as well as of routine blood chemistry, urinalyses, and often kidney function; we have seen no evidence of any harmful effects as yet following ultraviolet blood irradiation therapy.

In the acute pyogenic infection field we might list as of special interest several main groups: 1. Nineteen cases of acute appendicitis complicated by abscess formation with 15 recoveries and 4 deaths; one of the latter had a colon bacillus septicemia and multiple liver abscesses on admission and was obviously moribund.

2. Acute generalized peritonitis secondary to acute appendicitis with perforation; in this group are 17 cases with 11 recoveries and 6 deaths. Of these 6 deaths, 4 were hopelessly moribund by the time therapy was instituted. The 2 remaining nonrecoveries were apparently uninfluenced by the ultraviolet blood irradiation therapy.

3. Puerperal sepsis, including acute septic endometritis with or without acute parametritis and pelvic abscesses; in this class we are able to report 20 recoveries and 1 death.

4. Postabdominal sepsis; in this group we had 14 cases and 14 recoveries. It has been our day following irradiation. Despite this radical change from regular medical procedure, these patients have all done remarkably well and made uncomplicated recoveries.

5. Acute cellulitis, lymphangitis, lymphadenitis; here we have had 13 cases and 13 recoveries.

THE PRACTICAL MANAGEMENT OF ECZEMA IN INFANTS AND CHILDREN

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IN 1938 we published our impressions regarding the importance of contact and environmental allergens as a cause of eczema in infants and children.¹ Our observations along this line extended back to 1926. We called attention to the inadequacies of scratch, intradermal, and patch tests and to elimination diets in the management of these cases. We concluded that dietary regulations are of minor importance in children past 3 years of age, are slightly more important in children from 1 to 3, and are of importance in from 15 to 20 per cent of babies under 1 year of age. For the purposes of this paper we have reviewed the records of 124 patients who were carefully examined and treated during the years 1938 to 1940. Our recent observations have more than confirmed our original views. We are convinced that hypersensitivity to foods as a cause of eczema in infants is a minor factor certainly in not over 10 to 15 per cent of cases, and in older children is of considerably less importance.

Erroneous conclusions are easily drawn in the treatment of eczema in infants and children. Observers are apt to forget that approximately 50 per cent of all infants and children with eczema markedly improve or are entirely cured when hospitalized in the ordinary children's ward, devoid of wool and feathers, and put on normal diets. Recently, one observer² reported on the effectiveness of soybean food in the treatment of this form of eczema. Detailed scrutiny of this paper, however, reveals the fact that the children were hospitalized and all contact and environmental allergens were removed. He concluded that 50 to 60 per cent of infants and children with eczema are benefited by soybean foods. I submit that under the conditions of the treatment the percentage benefited would have been the same if he had not fed soybean food but had put the children on a normal house diet. Just recently, another observer reported improvement in approximately 50 per cent of cases on the feeding of lard in cases hospitalized. These con-

clusions are entirely unjustified. Another observation that should not be forgotten is that most children hypersensitive to some particular food show symptoms of intestinal disturbance when that particular food is ingested. Furthermore, hypersensitivity to ingested foods is usually, but not always, manifested in the skin by an urticarious reaction. It is always necessary to determine whether an eczema is secondary to an urticarial reaction in the skin or is a pure dermatitis from the onset. Eczematous response to ingested foods is the exception and not the rule.

Scratch and Intradermal Tests

Our opinion regarding the efficacy of scratch and intradermal tests is no different today than it was three years ago. In our opinion they are of exceedingly limited value. We have never been able to correlate the results of our tests or those of others with the actual clinical facts brought out by history and subsequent course. To rationalize scratch and intradermal tests to food proteins, one must assume that the ingested protein is absorbed at least partially unchanged and reaches the cutaneous cells in relatively the same form in which it exists in the material used for testing. Although this has been shown to be true of certain foods, particularly egg albumen, it demands a considerable stretch of the imagination to assume that this occurs in every instance in which a positive reaction to a scratch or an intradermal test exists. It is significant that many dermatologists and allergists have recently called attention to the shortcomings of scratch, intradermal, and patch tests.³⁻⁹

Patch Tests

We are also of the opinion that patch tests are of limited value in the practical management of eczema in infants and children. Actual clinical trial is the only sure test. Patch tests on infants and young children are of value when two, three, or four strongly suspected contact substances can be applied next to an entirely normal area of skin adjacent to an eczematous area. In this way clear-cut reactions can sometimes be obtained. With infants it is frequently im-

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possible to do a series of routine patch tests. The eczema is apt to be too generalized and the baby's skin too irritable to allow performance of satisfactory tests. Mild eczema may be made more severe, and there is an added danger of causing further hypersensitivity. Also, patch tests in general give negative results when the subject is atopic. We believe that patch tests are of more value in following up leads obtained by careful study of the history and of environmental and contact factors. Usually, it is best to postpone patch tests until the acute stage of the eczema has subsided.

The efficacy of patch tests on infants and children with protein substances is undecided and needs further investigation. Most authorities agree that these tests are generally negative. However, Peck and Salomon² and Peck³ have reported relatively high percentages of positive reactions to patch tests with protein substances in eczema of infants and children. While we have occasionally seen positive patch tests with protein substance in both infants and children, these positive tests have usually been delayed and have never been accompanied with vesiculation. We have frequently observed the development of a patch of erythematous squamous eczema in an infant or child at the exact site of contact with wool or feathers. Usually, this original patch has been on the cheeks, neck, elbow, wrists, or the popliteal area and, subsequently, atopic dermatitis has developed on other areas as a result of the dissemination of the offending allergen in the blood stream. A patch test on the back or arm of an infant with a protein substance does not approximate the actual clinical condition present in the production of a localized patch of eczema from contact with such a substance. It is our impression that moisture and friction are necessary and, of course, minute abrasion of the skin resulting from the friction. Before we can state that a patch test with a protein substance is negative, we must follow the first rule of patch testing—namely, approximate the condition present clinically. This is most easily done in practice by actual clinical trial, such as having the child wear a wool glove or a fuzzy sweater or coat.

Summarizing our impressions regarding patch tests in infants and children, we believe that they are of limited value and that actual clinical trial is the only sure test.

Method of Procedure

1. Investigation of (a) The family history of allergy. This is of slight importance in the individual case. (b) A history of definite reactions to specific foods. This information is recorded for future use. (c) The age at onset. We have never seen an infant under 10 days of age with eczema due to hypersensitivity. (d) The exact location of the first area of eczema and the site of subsequent attacks, especially the first area, to show evidences of exacerbations. (e) Contact substances, including soaps, laundry chemicals, medicated oils, powders, wool, silk, feathers, dogs, cats, insect sprays, kapok, the mother's and father's cosmetics, hand lotions, and toys. (f) Previous treatment, especially by local application.

2. Examination of the patient, with particular note of the area of onset; of sharply limited free areas, such as the nose, the upper lip, and the chin; and of sharp limitations of the ankles, wrists, and cheeks. Evidence of dissemination of the offending allergen through the blood stream and an estimate of the degree and extent of sensitization are extremely important.

3. Outline of treatment to the parents. This is often difficult because many intelligent, as well as ignorant, parents refuse to believe in the importance of external contact and environmental allergens. It is essential to convince them that the first procedure is the elimination of these factors, which requires from four to eight weeks of observation. A list of the common contact and environmental allergens is given to them with a detailed explanation that an infant must be kept in its crib or suspended in a canvas hammock and isolated from all contacts and environmental allergens. We insist on the removal of all wool and silk from the room, including carpets, rugs, and blankets, followed by frequent use of a vacuum cleaner. In cases of severe eczema we have insisted on hospitalization, and in a number of instances the use of an air-conditioned room has been of great assistance. However, in our experience the ordinary children's ward, free of all the common contacts, has proved adequate for a fair trial with all except highly sensitized children. One of the main benefits of the air-conditioned room is the maintenance of an absolutely even temperature and humidity. As is well

known, a high temperature frequently leads to excessive scratching, and when the humidity is low the dryness of the skin tends to induce excoriation. We emphasize again that from four to eight weeks is essential for a proper test in many cases. Hospitalization for such a period is impossible for many families unless free ward beds are at the disposal of the physician. Our best results have come in cases in which such accommodations have been available. When one is once convinced of the importance of contact and environmental allergens in a given case, any subsequent exacerbation should be carefully investigated, preferably by personal inspection of the environment.

4. Subsequent office visits at one- or two-week intervals. Answers to well-directed, searching questions relative to all common eczema-producing contact and environmental substances should be elicited.

5. Search for the specific cause of the eczema when the child is free of eruption. This can be done by patch tests, which are not always conclusive and, in our opinion, not as valuable as actual clinical trial.

6. Re-examination of the child and of the environment at the first sign of a recurrence.

7. Other methods of investigation, including elimination diets.

In carrying out this program, a searching detailed history is absolutely essential. The development of a high degree of skill as a detective is even more important, and its application more highly specialized, than an eczema in adults. Success or failure frequently hinges on a personal examination of every possible contact substance in the environment of the child. Immediate verbal answers by the parents or by nursemaids are notoriously unreliable, and experience has taught us that our results are in direct proportion to the time and effort extended in investigating the environment.

The following is a list of reasons for failure in the management of eczema of infants and children: (1) ignorance of the parents; (2) poverty of the parents; (3) indifference in the carrying out of directions; (4) lack of careful history, especially regarding point of onset; (5) lack of careful examination; (6) too much reliance on scratching, intradermal, and patch tests; (7) lack of time and patience in explaining problems to parents; (8) lack of detective instinct on part of physician; (9) lack of careful follow-up and examination of environment; and (10) use of irritating applications.

The most common contact and environmental allergens of importance in eczema of infants and children are:

(A) *Water soluble protein allergens*—wool, silk, feathers, and other animal epidermal products (in babies with thin stratum corneum, local contact dermatitis is possible. Allergens may be absorbed through inflamed or normal skin or by inhalation. Walls of blood vessels in upper corium are sites of primary shock tissue).

(B) *Chemical substances*—soaps, laundry chemicals, tanning chemicals, dyes, lacquered objects, medications, fish oil, oils from fruits and vegetables, cosmetics, weeds, and plants. (Epidermal cells are sites of shock tissue.)

Local Treatment

In most cases of eczema of infants and children, and certainly in all acute cases, only soothing treatment is indicated. In acute vesicular and pustular eczema, wet dressings of Burow's solution, saturated solution of boric acid, or potassium permanganate—1 to 4,000 dilution—are indicated. They should be applied on the most severe areas, six to eight hours per day. Soothing ointments and lotions should then be applied. Five per cent boric acid in plain petrolatum is satisfactory, as is also plain calamine lotion, calamine liniment, and emulsions of olive oil and lime water. Crude coal tar beginning with a 2-per cent strength is extremely valuable as a local application in eczema of infants and children. This is true in not only subacute and chronic cases, but in most acute cases. For the first three or four days the crude coal tar ointment should be applied only to limited areas in order to determine whether there is any hypersensitivity to this product. It may be applied twice a day and, therefore, kept on during the entire twenty-four hours or, as is our custom, it may usually be prescribed for use at night and a soothing liniment for use during the day. It should always be remembered that crude coal tar contains a photosensitizing fraction and that any child receiving this treatment should not be exposed to sunlight unless the crude coal tar is completely removed from the skin. We prefer a washed, distilled crude coal tar put up in a vanishing cream base, containing about 10 per cent of zinc oxide. It is always well to start with a strength of 2 per cent and later increase up to 5 per cent if well tolerated. Small fractional doses of x-ray are sometimes of extreme value in the management of severe cases. Two to

four treatments, not exceeding 50 to 75 rat units, seem to be effective. It should be emphasized, however, that reliance should not be placed on x-ray therapy for cure of the condition.

Soap and Laundry Chemical Substitutes

As we have emphasized previously, we believe that many cases of eczema are due to specific hypersensitivity to certain ingredients in these substances. It is also generally agreed that soaps and laundry chemicals act as irritants in any case of eczema and should be discontinued. As substitutes for soap we recommend either a sulfonated oil or a 5 per cent lauryl sulfoacetate in urea, both of which are now available on the market. As a substitute for laundry soap and other laundry cleaners, we recommend the use of a powder containing aryl sulfonate or some other related substance.

Summary

Investigation of contact and environmental allergens in eczema of infants and children brings a high percentage of satisfactory results.

Routine scratch and intradermal tests are entirely inadequate, unreliable, and misleading in investigation of eczema of infants and children. Routine patch tests of infants and children are not usually satisfactory; actual

clinical trial is more important. Patch tests with protein substances generally produce negative results in infants and children. Widely used, they do not conform to the first rule of patch testing—namely, that actual clinical conditions must be duplicated.

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THE ADEQUATE TREATMENT OF PROSTATIC DISEASE

With Special Reference to Pathology

ROY B. HENLINE, M.D., New York City

THE surgical treatment of prostatic disease has reached a high degree of success in the hands of many urologists. By either the suprapubic, perineal, or transurethral methods, the prostatic obstruction may be removed in most instances with a low mortality and morbidity. The particular method used for removal of this obstructing tissue has depended to a large degree on the choice of the surgeon, who considers only his training and ability to relieve the obstruction. In some instances he has overlooked the underlying pathology and has not selected the operation that would give the patient complete and permanent relief from his prostatic disease. In other words, the surgical procedure employed should not depend on the surgeon's skill in one method but upon the pathologic process involved in the prostate.

It is essential that renal damage, infection, hemorrhage, and retention of urine be considered in all patients with prostatic disease. These have been thoroughly discussed in the literature. One finds statistics with low mortality figures for each type of surgical approach to the prostate. We are aware that these low mortality statistics are the result of proper preparation of the patient by a surgeon who is highly skilled in the surgical approach he advocates. Given the same patients, with a surgeon skilled in a different surgical approach to the prostate, it is likely that similar mortality statistics would result.

Etiology and Pathology

The cause, or at least the prevention, of hyperplasia of the prostate in advancing years has not been definitely determined. The exact locality and origin of the early stages of prostatic hyperplasia have been the subject of discussion for many years. All have agreed that the new growth is first seen near the urethra under the mucosa. Tandler

and Zukerkandl, among others, believed that prostatic hyperplasia developed from the short prostatic glands, which only extend a short distance beneath the mucosa in the prostatic urethra. This is the locality where hyperplastic changes are first seen in the prostate. Deming and Wolf, in studying 210 prostates, have recently shown that hyperplasia is first seen as a fibromuscular mass in the muscular wall of the prostatic urethra and suggest that this mass may correspond to uterine myomas, since they have a common embryologic anlage. These fibromuscular masses lie parallel to the muscular fibers of the urethra between the prostatic ducts and stimulate epithelial hyperplasia from these ducts of the prostatic glands. They state that this hyperplasia is not an enlargement of existing prostatic glands but, although similar in structure, is composed of newly formed glandular elements originating from the ducts of the functioning prostatic glands. This explains its locality surrounding the prostatic urethra from which the growth extends to compress the functioning prostatic glands toward the capsule and, eventually, also causes urinary retention. As this hyperplasia increases in size, some of the ducts from the functioning prostatic glands are compressed, and the prostatic secretion from these glands cannot escape into the urethra. If these glands are infected, a walled-off focus of infection may result in these remnants of the prostate gland. This condition often exists and may be readily demonstrated when hyperplasia coexists with prostatic calculi. The hyperplasia compresses the normal prostatic ducts, and the endogenous calculi, often with infection, remain in the prostatic glands as they are compressed toward the capsule of the prostate. In other words, the hyperplasia separates the compressed prostatic glands from their normal connection with the prostatic urethra.

This hyperplasia of the prostate usually occurs in the muscular layer under the urethra to compress the lateral and median prostatic lobes but may also develop in the subcervical or subtrigonal glands. It never occurs in the posterior lobe of the prostate, nor does it originate in the functioning glands of the lateral or median prostatic lobes. How-

Read before the North Carolina Urological Association, Greensboro, North Carolina, October 13-14, 1940. Also read before the Section of Genitourinary Surgery of The New York Academy of Medicine, New York City, January 15, 1941, at the twentieth anniversary of the founding of the Department of Urology, James Buchanan Brady Foundation of the New York Hospital, Cornell Medical School.

From the Department of Urology, James Buchanan Brady Foundation, the New York Hospital.

four treatments, not exceeding 50 to 75 rat units, seem to be effective. It should be emphasized, however, that reliance should not be placed on x-ray therapy for cure of the condition.

Soap and Laundry Chemical Substitutes

As we have emphasized previously, we believe that many cases of eczema are due to specific hypersensitivity to certain ingredients in these substances. It is also generally agreed that soaps and laundry chemicals act as irritants in any case of eczema and should be discontinued. As substitutes for soap we recommend either a sulfonated oil or a 5 per cent lauryl sulfoacetate in urea, both of which are now available on the market. As a substitute for laundry soap and other laundry cleaners, we recommend the use of a powder containing aryl sulfonate or some other related substance.

Summary

Investigation of contact and environmental allergens in eczema of infants and children brings a high percentage of satisfactory results.

Routine scratch and intradermal tests are entirely inadequate, unreliable, and misleading in investigation of eczema of infants and children. Routine patch tests of infants and children are not usually satisfactory; actual

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pated in the prostate by rectal examination, a perineal exposure with complete removal of the prostate offers the only hope of cure if it proves to be an early carcinoma of the prostate. Since this area can be reached only by the perineal approach, the patient deserves to be operated upon by the method that offers him an opportunity to be cured.

When we consider that one out of every 5 to 7 patients past 50 years of age has a carcinoma of the prostate, are we not justified in removing the posterior lobe of the prostate, in a suspicious case, together with the obstructing portion of the gland? All other methods of treating prostatic carcinoma are rarely curative and only offer relief from symptoms. It is our custom to expose the prostate by perineum when a suspicious nodule has been palpated in the prostate. A small section of this area is removed and a frozen section is made at once. If carcinoma is discovered, a radical perineal prostatectomy is performed, including the entire prostatic urethra and seminal vesicles. If the biopsy proves benign, either a conservative prostatectomy is performed, if indicated, or the perineum is closed. Exposure of the prostate by perineum with a biopsy is far superior to repeated attempts to obtain a specimen with a needle through the perineum. A negative report from a needle biopsy proves nothing, since the small involved area may easily be missed. In a recent patient the small perineal biopsy removed the entire malignant area, and careful microscopic examination of the rest of the prostate and seminal vesicles failed to reveal any malignancy.

Since malignancy of the prostate is so common and until such time arrives when our treatment of prostatic carcinoma is more satisfactory in curing these patients and preventing the subsequent suffering, it may not be unreasonable to consider the advisability of removing the posterior prostatic lobe and capsule when surgery must be instituted anyway for obstruction. Although I do not recommend this procedure routinely, statistics may force us to consider it in the future if we

wish to offer our patients the best future outlook for continued health. I am opposed to the pessimism frequently spoken regarding carcinoma of the prostate. For a urologist to palpate a suspicious hard nodule in a prostate and wait to see what happens is a violation of the trust placed in him. These are the only patients we hope to cure of this disease and, unfortunately, most of them have no urinary symptoms! For the greater number of patients with prostatic carcinoma where extension has occurred, transurethral resection offers relief from urinary retention, and deep x-ray therapy often relieves the pain from metastases.

Conclusion

In conclusion, may I repeat that only the prostatic hyperplasia or fibrosis may be removed by suprapubic "prostatectomy" or by transurethral resection. To remove the prostate gland, a perineal exposure is necessary. Only by perineum can the posterior lobe (the site of 75 per cent of malignancies of the prostate) be removed together with the compressed remnants of the functioning prostatic glands. Only by maintaining a clear conception of the various pathologic lesions that may involve the prostate and only after proper study should we decide on the rational surgical procedure in each case. To treat all surgical prostatic disease by one method is not sound from a pathologic point of view. We, as surgeons, are rightly to be considered inadequate if, through lack of preliminary investigation, study, and understanding of the pathology present, we fail to approach our problem by that method which is particularly fitted to give adequate permanent relief.

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"There are some people—and I am one of them—who think that the most practical and important thing about a man is still his view of the universe. We think that for a landlady considering a lodger it is important to know his

income but still more important to know his philosophy. We think that for a general about to fight an enemy it is important to know the enemy's numbers but still more important to know the enemy's philosophy."—K. G. Chesterton

ever, malignancy of the prostate is said to originate in the posterior lobe in about 75 per cent of cases. Recent statistics by Moore and Rich draw our attention to the fact that between 14 and 16 per cent of all men over 50 years of age have a carcinoma of the prostate. Although these percentages seem rather large, carcinoma of the prostate is either becoming more common or is being recognized more frequently. In treating prostatic disease, one cannot overlook these findings without giving serious thought to their rational treatment. It has been suggested that since the average life expectancy of men has been increased one should expect to find prostatic malignancy more frequently.

Diagnosis

Every means at our disposal should be employed to determine the exact nature and extent of prostatic disease before the type of surgical procedure to be employed is decided upon. The presence of frequent urination, with the finding of residual urine in the bladder and an enlarged prostate by rectal examination, is insufficient evidence to suggest a particular type of surgical procedure to be employed. The exact location and extent of the obstruction should be established. The presence of prostatic infection, fibrosis, and calculi should be determined. The presence of a hard nodule in the prostate on rectal palpation arouses a suspicion of malignancy. Cystoscopy is often helpful but, in some patients, is inadvisable or impossible of performance. An aerogram and cystourethrogram in a semilateral position is a distinct aid in diagnosis and in most instances can be performed with little discomfort to the patient. It is our impression that a more exact impression of the size, location, and extent of the obstructing tissue may often be obtained by cystourethrograms.

Treatment

It has been so common for all of us to refer to the various types of prostatic surgery as "removal of the prostate" that many surgeons forget that the prostate is rarely actually removed. Only the hyperplastic tissue or so-called adenoma is removed, and the functioning prostatic glands or their remnants still remain firmly attached to the capsule. Removal of this hyperplastic tissue is frequently all that is required to establish adequate bladder drainage, and the remaining uninvolved prostatic tissue may reasonably be left behind. It is not uncommon, how-

ever, for the remaining prostatic glands to be the seat of a pathologic process that also requires removal to cure the patient. Among the most common causes requiring total extirpation of the prostate in some patients are prostatic calculi, marked infection with fibrosis, and early malignancy.

Transurethral removal of obstructing hyperplasia of the prostate is a rational procedure and has assumed an important place in prostatic surgery. With proper selection of cases and a skilled surgeon, excellent results can be obtained. Opinions vary as to the size of the prostate best treated by transurethral surgery. However, with a surgeon properly skilled in this procedure, relatively large hyperplasias may be adequately removed in this manner. Some surgeons prefer to remove large intravesical prostatic hyperplasias suprapubically, and similar results may be obtained in these cases by either method.

When it becomes desirable to remove the remnants of the functioning prostatic glands because of infection, calculi, or a hard nodule in the prostate which arouses one's suspicion of malignancy, it is essential to approach the prostate by the perineum. Only through the perineum can these prostatic remnants be removed. Neither by transurethral nor suprapubic approach is it possible to remove either these prostatic remnants or the posterior lobe of the prostate. The posterior lobe and false prostatic capsule are separated from the hyperplasia of the prostate by a line of cleavage which permits the hyperplastic tissue to be cleanly "shelled out" suprapubically. These remnants of the prostate, in which it is estimated that 75 per cent of carcinoma develops (posterior lobe), must, of necessity, be left behind in either a suprapubic enucleation or a transurethral resection.

In some patients who have had a so-called prostatectomy, a postoperative morbidity persists with infected urine and frequent urination. These symptoms are distressing to the surgeon and the patient. Although many of these are caused by pathology of the upper part of the urinary tract or infected bladder diverticuli, a certain percentage of them result from infection in the remnants of the prostatic tissue or the seminal vesicles. If this infection had been determined before operation, this postoperative morbidity could have been prevented by removal of the prostatic capsule and prostatic remnants by perineum together with the hyperplasia.

When a suspiciously hard nodule is pal-

effects on the blood pressure and skin level of anesthesia.

Despite important advantages, certain theoretic disadvantages are present which weigh heavily in making the decision to use this fractional technic for the first time. These doubts relate to the increased possibility of nerve root injury, to infection, and to meningeal irritation from the prolonged presence of the spinal needle. Further, the question of the effect on the cord and meninges of repeated injections of drugs arises. It is known, of course, that all anesthetic drugs studied thus far (and physiologic saline²) produce irritation.

At the present time our minor complications have increased with the use of this technic. The site of the lumbar tap in 1 instance on the sixth day developed an abscess that had to be opened. There were no meningeal symptoms accompanying this complication. Furthermore, our incidence of headache has increased markedly to 25 per cent from approximately 15 per cent previously. One case of severe backache throughout the first ten postoperative days occurred. Apparently, with the use of this technic a few minor complications have been substituted for major ones. Yet, on balance, we see no reason to question Lemmon's suggestion that operating table pads in the future should be manufactured to enclose a space for accommodating a spinal needle.

Technic

Our technic for fractional dosage spinal anesthesia at first followed that published by Lemmon. Later, several adjustments were made in the interest of simplicity. From our experience we now feel that anyone familiar with spinal anesthesia can undertake this technic with a minimum of special equipment.

The specially constructed mattress, with a cut-out area in the region coming adjacent to the lumbar spine of the patient for the accommodation of the protruding spinal needle, was probably of fundamental importance in the conception of this technic. Yet, early experience taught us that this clumsy equipment was unnecessary. First, we substituted two sets of three folded sheets placed under the lumbar region in such a way as to form a slot for the protruding needle.

Later, it was found that even the lower groups of sheets was unnecessary except for the heaviest patient. The folded sheets placed just headward to the needle produced an elevation of about 2 inches for protecting

the protruding spinal needle. By utilizing the depth of the longitudinal midline lumbar furrow and a reasonably short needle, this limited extra elevation was adequate. Increased elevation can readily be attained if necessary.

This arrangement, in certain special situations at least, produced considerable improvement. The patient at times actually liked the feeling of support under his back. (Occasionally, patients insist on having something placed "in the small of the back" regardless of the type of anesthesia.) The operating room staff found it unnecessary to move a cumbersome mattress from room to room for these cases. The surgeons disliked the high elevation produced by the thick mattress. This extra elevation, furthermore, made it necessary to obtain especially made shoulder braces to hold the patient in the Trendelenberg position. In our experience, the older ones would no longer fit over the increased mattress thickness. This complication was not anticipated and proved embarrassing in the first case. Further, in making cholangiograms during surgery, it was feared that the thick mattress and rubber covering would interfere with the clarity of the pictures; the folded sheets did not.

From the first we have used a 5 per cent solution of procaine rather than the 10 per cent suggested by Lemmon. We soon found that this solution, together with a technic using a low spinal tap and minimal diffusion, necessitated the use of larger amounts of the anesthetic drug than we had anticipated. The 500 mg. ampule of procaine crystals was then used rather than the smaller-sized ampules. Five hundred milligrams were dissolved with 5 cc. of spinal fluid, and to this was added 5 cc. of either physiologic saline or sterile distilled water. When a second ampule of procaine was necessary, the drug was dissolved in physiologic saline or sterile distilled water without the addition of spinal fluid.

Three features of this technic were emphasized in the original description. They were: (1) the mattress, (2) the tubing connection, and (3) the special spinal needle. We have already shown how subsequent experience proved the special mattress, though at times desirable, to be unnecessary. We found further that the connection between the needle and syringe can be improvised provided high-grade, nondistensible, small bore rubber tubing is used and provided the internal volume is accurately measured. A Luer-loc connection to the needle end of this tubing is necessary. A simple rubber-to-glass

OBSERVATIONS ON CONTINUOUS SPINAL ANESTHESIA

G. EDGAR BURFORD, M.D., and WILLIAM H. GALVIN, M.D., New York City

AN ORIGINAL contribution by W. T. Lemmon,¹ of Philadelphia, has applied a renewed stimulus to the search for improved spinal anesthesia.

Lemmon described a technic for making repeated injections of the anesthetic drug into the subarachnoid space at any time during the operation. The technic utilized a special needle, tubing connection, and mattress. The effect of this communication was to change for the better the thoughts of many surgeons and anesthetists concerning the reliability, the safety, and the future development of spinal anesthesia.

The reliability of spinal anesthesia has been made almost absolute by the use of this method. The need of supplementary anesthesia has practically vanished.

The safety of spinal anesthesia has been increased almost in proportion to the reliability. The possibility of an initial large injection proving toxic, either by reason of rapid absorption into the blood or extensive cephalad diffusion with concurrent respiratory and vasomotor paralysis, is in a large measure removed. The frequent small additions of the drug allow a gradual detoxification. Further, for the first time, the headward diffusion of the anesthetic to the level necessary to produce adequate anesthesia can be reasonably accurately controlled. This is true despite all the material that has previously been written about attempts to control the level of spinal anesthesia. Besides this, provided vasopressor drugs have not been used, the progress of cephalad diffusion may also be followed, to some extent, by the effect on the blood pressure.

The future development of spinal anesthesia has been affected to an equal degree. The attention of the chemist and pharmacologist will be shifted from the development of long-acting anesthetic drugs to shorter-acting ones. The short-acting drug, of course, increases the safety of spinal anesthesia with this technic by rapidly losing effectiveness should too high a level of anesthesia become established. For the present, procaine again becomes the drug of choice.

Because of the ability to repeat the dosage up to the desired effect, the clinical anesthetist using this technic can cease to worry about the angle at which the patient lies on the table. The emphasis on hyperbaric, hypobaric, and isobaric solutions, which have so frequently been praised or blamed as the controlling factor in establishing the level of anesthesia, may soon be forgotten.

In addition, answers are already being provided the clinical anesthetist to many unsolved problems in spinal anesthesia. These answers come from the most reliable source—the human patient. For instance, the problem of the harmful effect, if any, produced by anesthetic drugs through direct absorption after subarachnoid injection can be studied and compared to the effect of the paralyzing action on respiratory and vasomotor nerves. To anticipate in this connection, our results seem to demonstrate that absorption toxicity is slight and probably far less important than previously believed. Furthermore, positive demonstration of the effect of cephalad diffusion in man on the blood pressure can be given. Again to anticipate, the blood pressure falls when a sufficient quantity of an anesthetic drug is injected into the subarachnoid space to involve effectively the high thoracic levels of the cord.

While increased safety and reliability are the two major improvements resulting from this fractional technic, they do not represent all the advantages. This method appeals to surgeons. Many of them who previously studiously avoided spinal anesthesia because of its major defects readily adopt this method. The anesthesiologist is thus aided, in certain circumstances, in selecting what he considers the best anesthetic for the patient.

Another advantage lies in the fact that the patient can be prepared for anesthesia and operation a reasonable length of time ahead of the surgeon's arrival. This expedites the movement of cases on an active service. The spinal needle is inserted; the position is corrected; blood pressure and, if necessary, intravenous fluid apparatus are adjusted by the time the surgeon arrives in the operating room. The subsequent scrub-up period, in which previously the entire technic had to be hurriedly performed, is utilized to make the subarachnoid injection and to observe deliberately the

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From the Department of Anesthesiology, St. Luke's Hospital.

thetic drugs are injected into the subarachnoid space. Probably no other tissue area in the body could receive the injection of between 700 to 825 mg. of procaine in a 5 per cent solution within a short period without producing toxic effects. Up to the present, anesthesiologists have always rightly used the 2 per cent solution with much caution in work with regional block anesthesia.

The immediate dilution by the spinal fluid of solutions injected into the subarachnoid space is only one of the safety factors involved. Beyond this, it is possible that the myelin sheaths and nerve tissue in general compete effectively with the blood stream absorption mechanism (a mechanism far from clearly understood) in the fixation or removal of the available procaine in the subarachnoid space. The relatively large portion obtained by the nerve tissue is temporarily fixed there and then is gradually given off to the circulation at a rate easily handled and detoxified by the liver. A more detailed study of human tolerance for the subarachnoid injection of procaine will subsequently be reported.

Summary

The fractional technic of administration will prove of great value in increasing our knowledge of spinal anesthesia. Already it has added to the safety and reliability of the procedure. A simplification of the technic has been described.

We have found that from a low tap unexpectedly large amounts of procaine are frequently required to raise the level of anesthesia to the required site. This fact has been used to attempt to appraise the degree of toxicity resulting from simple absorption after subarachnoid injection of procaine. From our results this toxicity is mild.

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Discussion

Dr. Virginia Apgar, *New York City*—Dr. Burford's paper is among the earliest reports of the serial spinal method as observed by anesthesiologists. He has shown that the possibility of intermittent dosage of procaine has made spinal anesthesia much safer for the patient and relieves the surgeon of the worry that the anesthesia will wear off before the end of operation.

This no doubt accounts for the great popularity of the method among surgeons. The intermittent dosage appeals to anesthesiologists as the physiologic way to administer a drug to a patient. Spinal, as well as intravenous, anesthesia is now approaching the individual dosage of the anesthetic agent permitted by the inhalation route.

His observations as to the low toxicity of 5 per cent procaine introduced into the spinal fluid we can corroborate with our experience in the use of doses as high as 1,575 mg. during the course of four hours. There has been no evidence as yet of damage to the patient resulting from the metabolism of these large doses, even in cases with severe liver damage.

We should like to differ slightly with a few of Dr. Burford's observations. After using the method in 250 cases, we feel that the mattress as described by Dr. Lemmon has been most useful. Our only failures to introduce the needle (3 cases) occurred when a makeshift mattress was used. It is possible to cut over an operating room mattress, or a regular one, and recover it with a water-repellent material instead of buying the rather expensive ready-made one. However, we shall try Dr. Burford's method of supporting the lower thoracic spine with folded sheets placed above the needle.

We still worry about the angle at which the patient lies on the table. In some cases with 5 per cent procaine, it was impossible to get a good perineal anesthesia in the head-down lithotomy position, while the anesthesia of the trunk and thorax was more than desired. This has led us to use spinocaine much more often than previously for cases in the Trendelenberg position. This was also true of a patient with a popliteal aneurysm who was in the prone position for five and one-half hours. Five per cent procaine did not produce sensory anesthesia, but spinocaine proved satisfactory.

Dr. Burford does not usually use any vaso-pressor drug with this method. We have found their use imperative in abdominal cases. As to the best drug or method of administration we are not decided. An initial dose of ephedrine usually prevents an initial fall in blood pressure, but a second dose during a period of hypotension often has no effect. Recently, we have been adding a small amount of epinephrine to the second dose of ephedrine on the basis of experimental work suggesting that ephedrine inactivates the enzyme that destroys epinephrine and that circulating epinephrine is necessary for the action of ephedrine. Intramuscular neosynephrin has produced some rather marked swings in systolic pressure, but smaller doses may correct this. Hypotension has been the most frequent operative complication. The main features are a small pulse pressure; often, a low systolic level; a good clinical appearance of the patient; and a slow pulse. Its severity does not parallel the large doses of procaine. A high-oxygen atmosphere often does not improve it.

connection is sufficient on the syringe end. An artery clamp can be used in place of a pet cock for temporarily blocking the lumen.

No compromise, however, can be made with the third original feature of this method—the special malleable spinal needle. This soft, practically unbreakable needle is essential to the safe performance of the technic of continuous spinal anesthesia. The needle has no “spring” to its shaft; it is readily bent and holds any position into which it is molded.

Lemmon's statement that two of the older-type needles were broken in a month should be remembered by anyone undertaking this method. Our own experience has been confined to the special needle and none has broken. However, at least half of the needles withdrawn at the end of the operation are bent at sharp angles which, in many instances, would be sufficient to break the ordinary type of spinal tap needle.

Anyone, then, familiar with spinal anesthesia may undertake this technic with this minimum of special equipment: (1) a malleable spinal needle; (2) fine bore, nonkinking rubber tubing; and (3) a single Luer-loc connection adapted to fit the spinal needle on one side and the fine bore tubing on the other.*

Dosage

In using this fractional technic our most interesting experiences to date have occurred in connection with the amount of procaine that has of necessity been injected into the spinal subarachnoid space to obtain adequate anesthesia.

In the past, our belief, and apparently that of most workers in the field, has been that the toxicity of anesthetic drugs injected into the subarachnoid space is intermediate between the severe reaction produced by intravenous injection on the one hand and the relatively milder effect of subcutaneous injection on the other. This belief is based chiefly on irrelevant work showing a rapid appearance of such drugs as phenolsulfonephthalein and potassium ferrocyanide in the blood and urine after subarachnoid injection. Such drugs, of course, have not the specific affinity for nerve tissue shown by the various local anesthetics. Their behavior should be quite different.

More recently, but preceding the use of continuous spinal anesthesia, we have had reason to question whether a dangerous toxic effect develops from simple absorption alone. Pro-

vided cephalad diffusion and certain motor paralyses do not occur—or when these effects do occur, provided anoxia is prevented—we have reason to question the development of serious absorption toxicity accompanying spinal anesthesia. We reported a technic[†] utilizing routine oxygen inhalation at high tension for the safe use of large dosage subarachnoid injections to produce prolonged anesthesia.

With the advent of the continuous technic it seemed possible to put the problem of toxic absorption from the subarachnoid space to critical examination. If diffusion could be kept minimal by using a technic of injection aimed at that purpose (fine bore needle, low tap, minimal pressure injection), perhaps a considerable amount of procaine could be injected before anesthesia developed to the level necessary for operation. This technic, while at first sight appearing experimental, would utilize the theoretic safety factors of continuous spinal anesthesia—namely, a slow, controlled rise in cord level—to the greatest advantage.

At the same time, these large amounts, if administered without accompanying evidence of reaction, would have a distinct bearing on estimating the importance of systemic toxicity following absorption from the human subarachnoid space.

Utilizing this slow diffusion method, we found that really large amounts of procaine could be, and frequently had to be, injected before anesthesia developed in the operative field and blood pressure began to fall. The first patient under this technic required 825 mg. of 5 per cent procaine dissolved in spinal fluid and physiologic saline solution before anesthesia progressed high enough on the cord to permit the performance of an inguinal herniorrhaphy and before the blood pressure started to fall. This amount was given over a thirty-minute period. Another patient received 800 mg. over a three-quarter-hour period before anesthesia of the upper thigh developed. Several patients of necessity received over 500 mg. procaine in the early minutes before adequate anesthesia was established.

In these cases the correct position of the needle was established by aspiration or by direct observation of the drip of spinal fluid at the end of the operation. None showed evidence of cerebral or cardiovascular effects of procaine overdosage.

This to us indicates a wide margin of safety—considering only toxic effects from absorption into the blood stream—when anes-

* This material can be purchased from the George P. Pilling & Son Company, Arch and 23rd streets, Philadelphia.

EXPERIENCE WITH SULFAPYRIDINE AND SULFATHIAZOLE

WILLIAM D. PROVINCE, M.D., and FREDERICK K. HEATH, M.D., New York City

SULFAPYRIDINE and sulfathiazole became available for clinical use shortly after their introduction—the former in England in 1938 and the latter in the United States in 1939. The following report deals with the experience in their use at the Presbyterian Hospital in New York City during the period from July, 1938, to May, 1940.*

Sulfathiazole is more rapidly absorbed and excreted than sulfapyridine. They both differ from sulfanilamide in their capacity to form insoluble acetyl compounds, which appear in the urine in the form of crystals. In this circumstance they may either cause hematuria by trauma or obstruction by concretion.

Sodium salts of both sulfapyridine and sulfathiazole are available for parenteral administration. In general, 5 Gm. of sodium sulfapyridine given intravenously daily will maintain an effective blood level for a twenty-four-hour period. The more readily excreted sodium sulfathiazole must be given in larger quantities or more frequently to maintain an adequate level. Both of these sodium salts are acetylated in the body and, like the drug from which they are derived, may cause hematuria or obstruction.

There is great individual variation in the metabolism of these two drugs by the patient, and for this reason it is necessary to take frequent blood levels. Some patients have been maintained on 2 Gm. of either drug daily with an effective blood level (5 mg. per hundred cubic centimeters of the free drug), while other patients have required 18 to 20 Gm. daily to reach the same level. These are extremes, and it is true that the general daily requirement is 5 to 6 Gm. This dosage will establish and maintain an effective blood level in the majority of patients.

It is stated in the literature that sulfathiazole is acetylated less than sulfapyridine, and in using the Marshall method this is probably true. However, we have studied 900 blood levels of each drug determined by the modified Werner method. With this method the aver-

age acetylation is about 30 per cent for both drugs.

Toxicity

The toxic manifestations of sulfapyridine and sulfathiazole are summarized in Table 1.

Nausea, vomiting, and anorexia were the most frequently encountered symptoms. The statistics in the table reveal a higher incidence than in most series reported. If nausea or vomiting appeared in a case, it is recorded as such without trying to quantitate it. There is less nausea and vomiting with sulfathiazole. Moreover, these symptoms are qualitatively different, being milder and transient and usually appearing and disappearing in the first twelve to twenty-four hours. With sulfapyridine the nausea is often more severe, prolonged, and detrimental to the patient's morale.

It has been our experience that luminal has been the most helpful agent in controlling these symptoms ($\frac{1}{15}$ to $\frac{1}{8}$ Gm. given by mouth or by hypodermic one-half to three-quarters of an hour before each dose).

The statistics on the presence of crystals in the urine need explaining. The great majority of the sulfapyridine cases were studied during the first year of sulfapyridine therapy when we were not aware of the significance of crystals. Therefore, the higher incidence encountered with sulfathiazole may have been due to more particular attention to their presence.

Hematuria has not been frequent and, again, the lower incidence with sulfathiazole may be due to our increased knowledge of its mechanism. It has been observed, first, that hematuria rarely occurred in patients voiding 1,000 cc. daily and, second, that all the cases of gross hematuria were heralded by microscopic showers of red cells one to two days in advance. Because of these observations when a microscopic hematuria or a decreasing urinary output is discovered, the drug is stopped or the fluid intake is increased. Intravenous sodium sulfapyridine when given in doses larger than 5 Gm. or in the presence of low fluid intake has been a frequent offender.

Dermatitis appeared in 8 per cent of the sulfathiazole cases and in 2 per cent of the sulfapyridine cases. The rashes usually appear from the seventh to tenth day of therapy—in this series, most frequently on the

From the Department of Medicine, College of Physicians and Surgeons, Columbia University, and the Presbyterian Hospital, New York City.

* For much of the sulfapyridine and sulfathiazole used in this study we are indebted to E. R. Squibb & Sons, Merck and Company, Lederle Laboratories, and Winthrop Chemical Company.

We have not found that especially large doses of procaine are necessary to produce the desired level of anesthesia. The largest was 250 mg. in divided doses for a gastric resection.

Pentothal or nitrous oxide are often used to control the retching that occurs in operations on the upper part of the abdomen and to do away with the discomfort of a long operation in the Trendelenburg position.

The incidences of headaches and backaches are no greater with this method in our series than with other methods.

Dr. Burford has brought us many interesting ideas in his paper, and I feel sure that after several years of experience with this new method most of his observations will be found to be accurate.

Mary Putnam Jacobi Fellowship

The Women's Medical Association of New York offers a Mary Putnam Jacobi Fellowship for medical research of one thousand dollars (\$1,000), available October 1, 1942. It is open to any woman doctor, either American or foreign, who is a graduate of a reputable medical school.

Applications for this fellowship must be filed with the secretary of the committee by March 1, 1942, and must be accompanied by statements by persons other than the candidate as to (1) health, (2) educational qualifications, and (3) previous work. The applicant herself should state the problem she proposes to investigate and send her photograph. As it is not practicable for the secretary to write for letters about candidates, applicants should send with their application sufficient data to enable the committee to judge of their respective merits.

The recipient of the fellowship will be expected to give full time to the study of her problem and to make a report for publication at the completion of her research.

Application blanks may be obtained from the secretary of the committee.

ANNIE S. DANIEL, M.D.

*Chairman of the Mary Putnam Jacobi
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150 East 73rd St., New York, N. Y.

AN EXAMINATION AS TO FITNESS FOR MARRIAGE....

.... should mean far more than a test of the blood for syphilis and a cursory inspection for the presence of gonorrhea, says Dr. Robert L. Dickinson in *Clinical Medicine*. It should include a study of the family history for the presence of inheritable diseases; of the personal history, not only for physical diseases but also for psychic tendencies and patterns; and a complete general examination, including the conformation and functions of the genital organs.

Preventive medicine is rapidly taking precedence over curative medicine, and people expect physicians to prevent disorders that are preventable.

Divorce is a social disorder (and frequently also a personal one) and can, in most cases, be prevented by proper and adequate instruction and training of the young couple before marriage. The frankness of youth is amazing, but its ignorance is appalling.

The successful premarital consultation requires a physician who is trained in its technics, and must be thoroughly individualized. It should include a study of the hereditary factors on both sides; of the training, knowledge, and adaptability of both the young people; and of the probability of their ready adjustment to the sexual relationship and to childbearing. Instruction should be given as and where it is needed, and a thorough working knowledge of the technics of contraception is the only sure path to planned parenthood, which is a powerful prophylactic against divorce.

This country is not yet ready for the legal enactment of such ideal premarital requirements, but the medical profession should be educating the people to the point where such examinations become the voluntary custom of all reasonably civilized people. Only then can such measures be safely enacted as a legal code.

TABLE 2.—ANALYSIS OF PNEUMONIAS WITH MORTALITY

	Drug	Number of Cases	Mortality, Percentage	Number of Bacteremia	Mortality, Percentage of Bacteremias
Pneumococcus	S. P.	100	10	13	30
Lobar pneumonias	S. T.	34	0	1	0
Pneumococcus	S. P.	48	10	3	100
Bronchopneumonias	S. T.	21	5	0	0
Nonpneumococcus	S. P.	28	7.1	0	0
Lobar pneumonias	S. T.	3	0	0	0
Nonpneumococcus	S. P.	26	11.5	1	100
Bronchopneumonias	S. T.	12	16.6	0	0
Serum and chemotherapy		21	14	5	40

Heidelberger¹ or the usual rabbit serum supplied by the commercial laboratories or the New York City Department of Health. In all cases 100,000 units or more were given until the precipitin test for circulating antibody showed an excess. The usual preliminary precautions were carried out and no untoward reactions occurred.

Results

Between July, 1938, and May, 1940, there were 272 adult cases of lobar pneumonia and bronchopneumonia treated in the Presbyterian Hospital with chemotherapy, with an uncorrected mortality of 8.5 per cent. This does not exclude those patients who arrived at the hospital moribund, those who received less than 5 Gm. of drug, or those who died in less than twenty-four hours of admission.

For purposes of analysis the cases were separated into two groups: (1) the pneumococcal pneumonias and (2) the nonpneumococcal pneumonias, which did not include the so-called "atypical" or "virus" pneumonias but which presented enough suggestive features to warrant a trial on chemotherapy. Bacteria other than pneumococci—i.e., hemolytic streptococcus, hemolytic *Staphylococcus aureus*, etc.—were isolated from the sputums of some of these cases.

Each of the above groups were subdivided into (a) the lobar pneumonias treated with sulfapyridine and sulfathiazole; and (b) the bronchopneumonias treated with sulfapyridine and sulfathiazole, making eight subdivisions as indicated in Table 2.

In comparing the results of chemotherapy in the pneumococcal lobar pneumonias in this series, it is seen that there were 100 cases treated with sulfapyridine, with 10 deaths, a mortality of 10 per cent. Among these cases there were 13 with bacteremia, with a 30 per cent mortality. There were 34 sulfathiazole-treated cases of lobar pneumonia without a fatality. In this group there was only 1 bacteremic case and he recovered.

The pneumococcal bronchopneumonias numbered 48 treated with sulfapyridine, with a mortality of 10 per cent. In this group there were 3 patients with bacteremia, all ending fatally. Two of these patients came to the hospital with an agranulocytosis due to amidopyrine and died terminally of their pneumonias. The third was a 73-year-old patient with a carcinoma of the esophagus who developed the pneumonia following gastrostomy. There were 21 cases of pneumococcal bronchopneumonia treated with sulfathiazole, with a 5 per cent mortality. None of these was bacteremic.

There were 28 nonpneumococcal lobar pneumonias treated with sulfapyridine, with no bacteremic cases and a mortality of 7.1 per cent. Three cases were treated with sulfathiazole; none was bacteremic and all survived.

The last group consisted of the nonpneumococcal bronchopneumonias, of which there were 26 treated with sulfapyridine. The mortality in this group was 11.5 per cent. One of these cases was bacteremic; it was due to *Bacillus Friedländer* and at autopsy showed an abscess of the liver secondary to a perforation of the duodenum. There were 12 cases of nonpneumococcal bronchopneumonia treated with sulfathiazole, with a mortality of 16.6 per cent and no bacteremias.

Comment

It is interesting to note that the mortality rates in all varieties of pneumonia treated with sulfapyridine were approximately the same—i.e., around 10 per cent. On the other hand, in 55 cases of pneumococcal pneumonia treated with sulfathiazole the mortality was 1.8 per cent.

In analyzing this apparent difference in the effectiveness of the two drugs, the following facts must be borne in mind. Fifty-two per cent of the series treated with sulfapyridine were under treatment by the third day of the disease. On the other hand, 73 per cent of

TABLE 1.—COMPARATIVE TOXICITY OF SULFAPYRIDINE AND SULFATHIAZOLE

	Sulfapyridine (202 Cases)		Sulfathiazole (178 Cases)	
	Num- ber	Per- cent- age	Num- ber	Per- cent- age
Nausea	120	60	61	34.2
Vomiting	104	52	40	22.4
Crystals	9	4.5	32	17.9
Hematuria	10	5	3	1.6
Dermatitis	4	2	15	8.4
Fever	6	3	16	8.9
Anemia	7	3.5	4	2.2
Leukopenia	1	0.5	1	0.5
Neuritis	0	0	3	1.6
Psychosis	9	4.5	0	0
Cyanosis	16	8.0	0	0
Diarrhea	0	0	1	0.5

ninth day. The eruption that appears with sulfathiazole has been usually of the erythema nodosum type, characterized by rounded, red, raised tender areas over the extensor surfaces of the elbows and the shins. Rarely, it has appeared on the face and trunk as well. In 3 cases the rash was accompanied by conjunctivitis and joint pains. The sulfapyridine eruption has been of the maculopapular, erythematous type, most frequently seen on the thorax and abdomen.

Drug fevers usually appear after the first week of chemotherapy; the temperature is usually characterized by a slow rise but may be accompanied by chills and fever of the spiking type. With the appearance of a rash or fever the drugs are stopped.

Anemias were rare, comprising only 2 to 3 per cent of the toxic manifestations. These were of two varieties: (1) the acute hemolytic variety, coming on in the first three days of therapy; and (2) the more usual type where the red blood count drops off more slowly over a period of days or a few weeks. Leukopenias were rare and no purpuras were seen. None of these untoward manifestations progressed following cessation of therapy.

Peripheral neuritis is rare and has not been seen with sulfapyridine. It has appeared three times in mild degree with sulfathiazole. In each instance it appeared two to four weeks following cessation of therapy and was characterized by pain, paresthesia, and slight motor weakness, clearing spontaneously. The peroneal nerve was involved in 1 case and the ulnar and peroneal nerves in the other 2 cases.

Certainly, from the patient's point of view, sulfathiazole is a more desirable drug to take than sulfapyridine. It gives less nausea, anorexia, and vomiting. With regard to the other toxic manifestations it is comparable to sulfapyridine.

Management of the Pneumonias

Between July, 1938, and May, 1940, 272 cases of pneumonia were treated by chemotherapy and, of this group, 21 cases received serum in conjunction with chemotherapy. Unfortunately, alternate cases were not treated with the two drugs. During the winter of 1938 to 1939 the majority of the cases were treated with sulfapyridine, and during the winter of 1939 to 1940 the majority received sulfathiazole.

The diagnosis was based upon the history, physical findings, and an x-ray of the chest in every case. The criteria for the diagnosis of lobar pneumonia were sudden onset with chill, fever, cough, rusty sputum, and chest pain with consolidation of lobar distribution on physical examination or by x-ray. Bronchopneumonia was diagnosed in the absence of a typical history or when patchy consolidation was noted on physical or x-ray examination. Furthermore, all postoperative pneumonias were included under bronchopneumonia.

At least one and, in negative cases, usually two or more examinations of sputum for pneumococci were made. This included Neufeld typing, direct culture, and mouse inoculation, all of which were done with each sputum. Blood cultures were done in 91 per cent of the cases before administration of any therapy. If indicated, they were repeated. Complete blood counts were done on alternate days and in many cases they were done daily. Blood levels (modified Werner method) were taken the morning following initiation of chemotherapy and on alternate days thereafter. Only the unconjugated or "free" drug level is mentioned in this paper. In most cases fluids were forced to between 2,500 and 3,000 cc. daily and the output measured.

When the necessary diagnostic data had been secured, chemotherapy was begun. The initial dose with both sulfapyridine and sulfathiazole was rather uniformly 2 Gm., followed by 1 Gm. every four hours. But since an attempt was made to keep the blood level approximately 4 to 6 mg. per hundred cubic centimeters, the subsequent dose varied with the blood level. The sodium salts of sulfapyridine and sulfathiazole were used intravenously when it was desired to secure a high initial blood level concentration, when difficulty in maintaining concentration by mouth was encountered, or when oral medication was impossible.

Serum, when employed, was concentrated rabbit globulin prepared by Dr. Michael

The authors wish to thank Drs. A. R. Dochez and Yale Kneeland, Jr., for their supervision and many helpful suggestions.

Reference

1. Heidelberger, M., Turner, J. C., and Soo Hoo, C. M.: *Proc. Soc. Exper. Biol. & Med.* 37: 734-736 (1938).

Correspondence

SULFATHIAZOLE PER SE IN THE TREATMENT OF LOBAR PNEUMONIA

To the Editor:

March 1, 1941

In reading through recent articles referable to the treatment of pneumonia with sulfathiazole, I thought of the paradox of the treatment therein prescribed as compared to that of a case of lobar pneumonia treated by me. In my case, as differentiated from those described, there were no hospital facilities, no nursing attention, practically no care, no hygiene, no laboratory procedures, and no x-rays or any of the modern diagnostic or therapeutic aids. If ever there was a possibility of finding out the value of a medicament per se, this was an ideal case. In fact, the lack of hygiene and proper care and attention put the medicament to its greatest test—and it won. All the patient received was sulfathiazole and small amounts of liquids.

This patient, a Chinese schoolboy, aged 16, weighed 110 pounds and was 5 feet, 5 inches tall. He was in a room 40 by 20 feet. This room was subdivided into ten booths, the partitions being 6 feet high. Each booth had a single bed, dresser, and chair. There were three large windows on one side of the room. I managed to have one of these opened, but doubt that it was kept open very much. The window shades were always drawn. Thus, there was a minimum of fresh air and sunshine in this bedroom where 10 persons slept. The toilet facilities were in the next room, where, despite his critical condition, the patient was forced to go. He was mostly alone during the day except for an occasional visit by his uncle, who came up from downstairs to give him his medication and liquids. He was in bed, clad in pajamas and some over clothing. No skin care was given.

The temperature, pulse, and respirations were noted by myself once daily. No laboratory aids

such as blood counts and concentration levels, sputum examinations, x-rays, etc., could be used. Nursing care was nil. This patient just lay there, and with the help of sulfathiazole and small amounts of liquids he recovered.

The patient became ill January 24, 1941. On this date he had a severe chill, fever (104 F.), pain in the right side, cough, dyspnea, flushed cheeks, and scanty viscid sputum. On examination, there were dullness, increased vocal fremitus, tubular breathing, and fine crepitant rales over the lower left lobe.

The first day $1\frac{1}{2}$ Gm. of sulfathiazole was given every four hours. The second day, $\frac{3}{4}$ Gm. was given every four hours. On the third, fourth, and fifth days the dose was $\frac{1}{2}$ Gm. every four hours.

After the first thirty-six hours, when I visited the patient, he was sitting up, looking cheerful and well. The cough was slight, and his temperature was 99.4 F. The rales were more bronchovesicular. On the fifth day all signs and symptoms disappeared.

This patient recovered despite every medical and nursing disadvantage, with one exception. The treatment was solely dependent on the medicament—sulfathiazole. The cure was about as rapid as the hospitalized cases receiving every modern facility. The only unknown factor here is, how the patient would have fared without the sulfathiazole. The probabilities are obvious, and it seems that this was an ideal case to note the potentialities of sulfathiazole per se.

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MEDICOMILITARY SYMPOSIUM ON NUTRITION

"Nutrition in the Army" will be the subject of a symposium for Medical Department Reserve Officers on Tuesday evening, January 13. The meeting will be held at 8:30 p.m. in the Federal Building at 90 Church Street, New York City.

Participants in the symposium will include Colonel Samuel Adams Cohen and Colonel H. I. Teperson of the Medical Corps Reserve, Lieutenant Colonel James A. Tobey of the

Sanitary Corps Reserve, and Major Louis Griessman of the Veterinary Corps Reserve. Colonel Milton I. Strahl, Medical Corps Reserve, is chairman of the executive committee in charge of this event.

An exhibit on army nutrition will also be shown. The entire program is under the supervision of Lieutenant Colonel William C. Lippold, M.C., U. S. A., chief of the medical section of the Second Military Area.

the sulfathiazole-treated cases were receiving the drug at this early date. In other words, the patients who were treated with sulfathiazole arrived at the hospital earlier on the average than those in the sulfapyridine series. Since in the majority of cases the bacteremia does not appear until the third day of the disease, this means that the cases treated with sulfathiazole were receiving chemotherapy before the expected day of sepsis. This fact may explain why the bacteremic rate and mortality were lower in the sulfathiazole cases.

The distribution of the types of pneumococci in lobar cases was about the same.

The majority of the cases were white, with the male sex predominating. In spite of the opinion that Negroes offer poor resistance, 37 were treated without a fatality. Eighty per cent of the sulfapyridine and all of the sulfathiazole deaths occurred in patients over 60 years old.

Although at first it was thought that there was a difference in time of crises with the two drugs, no essential difference was found. Approximately one-third to one-half had crises in the first twenty-four hours, and three-quarters to four-fifths had a crisis in forty-eight to seventy-two hours with the use of either drug.

How long should chemotherapy be continued? There is no definite answer to this question. Each case is a problem unto itself. In the first year of chemotherapy the cases received an average of 27 Gm. of sulfapyridine over a period of five days; a study of the cases revealed a small group of patients who suffered relapses when only 10 to 25 Gm. had been administered. During the second year, when the change was made to sulfathiazole, a larger dose was employed. An average of 45 Gm. was given during a period of seven days. This larger dose and longer period of therapy appeared to result in fewer relapses.

The average period of hospitalization was nineteen to twenty days. This figure is uncorrected for other conditions irrelevant to the pneumonia.

The various chemotherapeutic agents are indicted, and rightly so, for their toxic properties, but little is said about the marked reduction in toxic phenomena associated with the pneumonia *per se*. It is noteworthy that only 1 patient out of 272 had sufficient distention to warrant energetic treatment directed toward decompression. Second, there has been a marked decline in the need and use of oxygen in pneumonia. Finally, there is an

increased sense of well-being in most cases soon after drug administration is begun.

In this series no correlation of blood level with crisis could be found. If there is a critical level for crisis it was not discernible.

There were 21 cases that received both chemotherapy and serum. This group represented the most severely ill patients in the series. Their average age was 50. There were 5 bacteremic cases, with 3 deaths—a mortality of 14 per cent for the entire group. The age of these 3 fatal cases was well above average. Two of them were due to *Pneumococcus* type III and were complicated by asthma and agranulocytosis due to aminopyrine, respectively. The third death occurred as a relapse in a *Pneumococcus* type III pneumonia. The group is too small to draw any conclusions.

The pneumococcic cases were pooled and the incidence of complications were compared. Pleural effusions occurred in 11 to 12 per cent and empyema in 3 per cent with both drugs. Relapses took place in 12 per cent of the sulfapyridine cases and in 9 per cent of the sulfathiazole cases. The relapses represent inadequate therapy as to daily dosage and duration.

Summary and Conclusions

1. Our experience with sulfapyridine and sulfathiazole in the treatment of various types of infections between July, 1938, and May, 1940, is herewith reported.

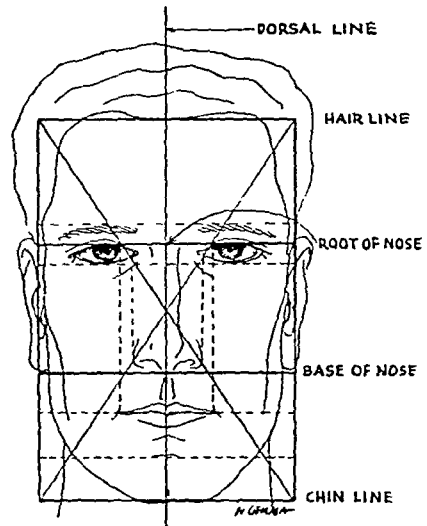
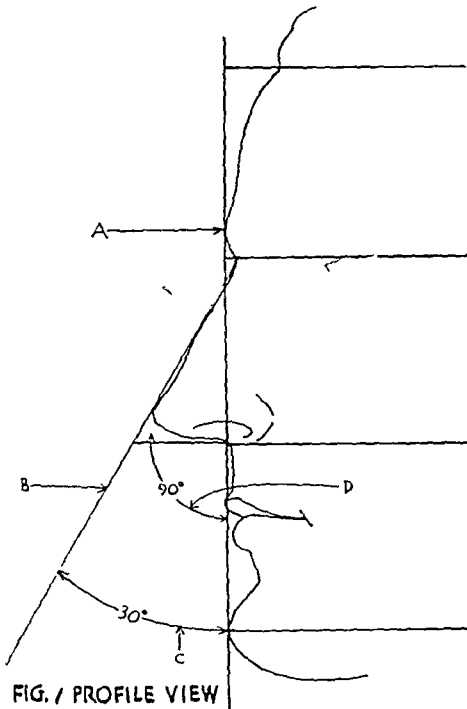
2. Nausea and vomiting are less frequent and less severe with sulfathiazole than with sulfapyridine. Other toxic manifestations occurred with about equal frequency. Provided that proper precautions are taken during the course of drug administration, all of these toxic manifestations can be prevented or controlled.

3. Altogether, 272 cases of pneumonia were treated with chemotherapy with a mortality of 8.5 per cent.

4. The mortality rate in 100 cases of pneumococcic lobar pneumonia treated with sulfapyridine was 10 per cent.

5. Thirty-four consecutive unselected cases of pneumococcic lobar pneumonia were treated with sulfathiazole without a fatality. Only 1 of these cases was bacteremic.

6. The results of chemotherapy in cases of pneumococcic bronchopneumonia are approximately the same as in lobar pneumonia.



FIGS. 1 and 2.



vironment. As is so often true in science, the answer also sets a problem.

These results, which may be characterized as revolutionary, have a distinct bearing on the problem of stability of racial types. If environment affects physical type then it would explain the overlapping of our white subraces of today, for mankind has in all probability been subject to this change, time and again, in his

wanderings over the earth. Man has been moving for centuries, and there are no distinct records of the changes effected by these wanderings. Thus, the picture of race shifts from one of stability to one of recurrent changes.

From a surgical point of view, if we are to adhere to these physical measurements in utilizing the rhinometric instruments for our guidance, we cannot help but err in the ma-

THE IDEAL NOSE

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IN THE last decade much has been written in plastic textbooks and in the literature on the physical measurements of the nose for rhinoplasty. Many new instruments (profilometers, photometers, rhinometers, etc.) have been devised to measure the various angles of the nose. This has been an outgrowth from the architectural pattern of the face fashioned from the works of Schadow.¹

Briefly, in Fig. 1 the profile angle (C) varies from 25 to 35 degrees with 30-degree angle considered the ideal measurement for rhinoplasty. It is formed by a line (A) drawn from the frontal protuberance to the chin, with another line (B) from the root of the nose along the dorsum to the tip. Any marked excursion from this mathematical pattern results in either a convex (hump) or concave (saddle) nose.

Another mathematical dictum is that the length of the nose—that is, from the root to its tip—is the same or slightly shorter than the chin line (a line drawn from the base of the columella to the chin).

The septolabial angle (D) varies from 90 to 105 degrees and is formed by the columella with its junction of the upper lip. A long nose will shorten this angle and conceal the beauty of the mouth. An extremely short nose increases the angle with a marked accentuation of the upper lip. The ideal measurement is about 90 degrees.

The facial planes exhibited on a frontal view by this canon are interesting—Fig. 2. Four parallel lines running, respectively, through the hairline, the root of the nose, the base of the nose, and the chin will divide the face into 3 equal parts.

The position and size of the eyes are most important in the pattern. The width of an eye, the space between the eyes, and the width of the nose are equal in size.

The mouth must blend somewhere in the physical pattern; most pleasing to the eye would be about one-third the distance from the columella to the chin line.

The question that confronts us is: Are we to be guided in our nasal corrections by these mathematical formulas? If not, then why all these rhinometric instruments, the different canons, dissecting the entire face into a mathematical pattern of angles and squares?

Do these serve more of an academic interest than of a surgical value or both?

What could be more fitting as an answer than to refer to the real beauties as represented by the great masters. Fig. 3 is the Italian beauty, Beatrice d'Este, painted by Leonardo da Vinci. The septolabial angle is 110 degrees and the facial compartments are unequal. Fig. 4 is an English beauty painted by Rothstein of the British School. Here the discrepancy in these physical patterns is even greater. The septolabial angle is 123 degrees, the profile angle is 37 degrees, and the facial compartment at the base of the nose is asymmetric.

Fig. 5 is an English beauty painted by Dante Gabriel Rossetti of the British School. Here the hairline and the base line of the nose do not synchronize in a mathematical pattern in this priceless gem. Fig. 6 is a portrait of a Dutch beauty painted by Gari Melchers and is far from keeping in harmony with these architectural designs as is apparent.

From these immortal paintings briefly, then, we observe that beauty is not a physical pattern of squares and angles, fashioned on a mathematical basis. It is rather something indefinable by which our eyes, hands, and soul are artistically and culturally gifted to create the integral parts of the face into a harmonious symphony of aestheticism.

From an anthropologic point of view, we find ourselves more in a quandary.²⁻⁴ The cephalic, orbital, and nasal indices vary not only among the races but surprising enough even in the same family. Boas⁵ found in his experiments that the children born in this country differed considerably from the children born in Europe from the same parents. Fortunately, the conditions of this inquiry were such that two possible causes for the change in type could be eliminated at once. Change through intermarriage was excluded because the parents of the European-born children and the American-born children were the same. The possibility of selection was also precluded because the time involved was so short. The residual possible cause was, therefore, to be seen in the effect of the American physical environment on the European-born types. Just what is meant by environment? It might cover climate, eating habits, or perhaps an unidentified factor of physical en-

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Hypnotics and Sedatives

DR. McKEEN CATTELL: Today we are to have a discussion of the hypnotic and sedative drugs to be opened by Dr. Gold.

DR. HARRY GOLD: I have here a list of the more important drugs that are useful in producing sedative and hypnotic effects: (1) bromides; (2) chloral hydrate; (3) paraldehyde; and (4) barbiturates (barbital, phenobarbital, pentobarbital sodium, amytal, evipan).

We might also add sulfonal and trional and various derivatives of urea, such as bromural, adalin, carbromal (sedormid). Pharmacologically, these compounds are distinguished in part by the fact that while they produce sedative effects they do not bring about deep narcosis even in toxic doses.

Alcohol is effective in producing hypnotic effects, but it presents special well-known features that make it undesirable for general use in that way.

Chemical enterprise has been intense in the field of synthesis of sedative agents, and literally hundreds of agents related to chloral, urea, and barbituric acid have been made. Scores of them have been introduced into therapeutic use. It is my belief that the small list given above will satisfy all the needs that can be satisfied by known sedative and hypnotic agents.

Sedatives versus Hypnotics.—The first matters I wish to consider are the terms "hypnotic drug" and "sedative drug." A recent paper on hypnotics in the *J.A.M.A.* defined hypnotics as "drugs that induce sleep," and sedatives as agents which "decrease the sensitivity of the central nervous system," although it was made clear that no sharp distinction can be drawn between them. I think these terms have rendered poor service, and perhaps we ought to consider abandoning them. If we do that we may succeed in time in relinquishing an incorrect idea which they tend to pro-

mote. The terms sedative and hypnotic should be used, I think, to label effects, not drugs, because it is the same drug that causes both effects. The same action operating under different conditions gives different results. A dose of 0.3 Gm. (5 grains) of barbital will quiet the patient and reduce nervousness during the day. The patient may be aware of some dulling of the perceptions or mentation, but he does not fall asleep. The same dose of barbital given at bedtime, with all other factors present conducive to sleep, produces sleep. Occasionally, it is a matter of doses, somewhat larger doses being necessary for sleep. The grouping of drugs as sedatives and hypnotics is often attempted. Physicians sometimes prescribe phenobarbital to be taken during the day and then barbital at night, in the belief that one is just a sedative and the other a hypnotic. I believe that such a distinction has no validity.

Mode of Action.—This whole group of substances depresses the brain. Thresholds are raised. Changes are produced in the sensory, the motor, the intellectual, the autonomic, and the psychic reactions. Reflexes are depressed. There is no reason to suppose that any portion of the brain escapes their action. The net result of this depression is an altered nervous state, which varies greatly from person to person. In general, they tend to produce a feeling of lassitude, diminished mentation, a disinclination to mental and physical activity. Emotional tension, agitation, and anxiety are often relieved during their action. The mood is sometimes changed from one of depression to one of pleasant calmness or even elation.

This depression of the brain usually results in mental and physical rest. And that is the main objective. At night it promotes sleep.

It is not so in all patients, however. In many, the results are distinctly unpleasant

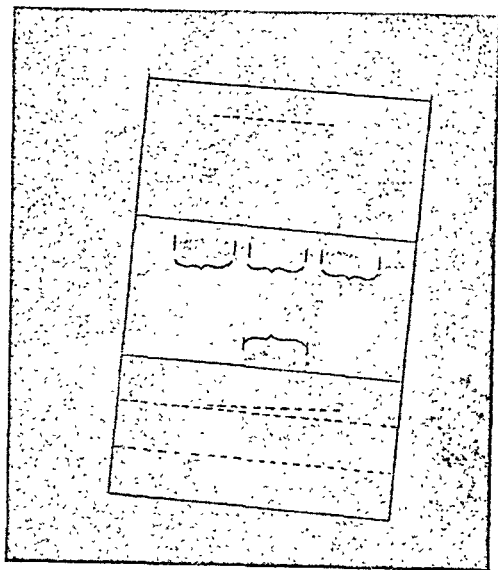


FIG. 5.



FIG. 6.

majority of cases. In the first place, measuring the nose directly after an operation to ascertain whether or not we have the proper aesthetic measurements does not take into consideration the swelling and edema that are always associated in these cases through local

infiltration, trauma to tissue, bleeding, etc. It does not take into consideration the future contraction that is going to take place. It does not take into consideration the retraction of the tip which always follows and, at times, may ruin an apparent good result.

The philosopher and anatomist, Bell,⁶ in speaking of attaining beauty, said: "The artist is not to slight nature or avoid it, but to study it deeply, as the only source of improvement. He should study the quality of smile, the eloquent eyes, the formation of the forehead, the depth of the eyes, etc., and thus he passes from point to point, from one feature to another, the nose, the ear, exaggerating a little the outline of whatever indicates the higher and purer qualities, and avoiding what is low or whatever is associated with the baser human passions or with the form of the brutes and by insensible gradations and long contemplations of what is highest and best, he acquires from nature, that idea which is in his mind, the perfection of form."

A countenance that in ordinary conditions has nothing remarkable may become beautiful in expression. It is expression which raises affection, which dwells pleasurably or painfully in the memory.

In rhinoplasty let us not analyze these cases in physical terms of angles and squares which rob us of initiative and the burning desire for creation. The wonders of the Renaissance lay claim to give nature the expression and feeling of beauty which is seen through the artist's soul. The inspiring works of Leonardo da Vinci, Michael Angelo, and the divine Raphael who portrayed the spirit of that age are the real creators of beauty personified in art.

"La beauté est un des plus grands mystères de la nature."

As Voltaire aptly remarked: "Beauty to the toad is its mate."

101 East 85th Street

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and objectionable. In some, restlessness is induced. The stupor is often attended by wakefulness. As Dr. Wolff and his associates experienced in one of their studies, anxiety may not be relieved but increased. The difficulty in mentation and the lethargy may be attended by an unpleasant rush of thoughts that create bewilderment, fear, and increased anxiety. Confusional or delirious states are not at all rare after even ordinary doses of these agents, especially in elderly patients. Elderly people are sometimes frightened by the strange sensation that seems to put wakefulness beyond their control.

I want to lay stress on the point that the *quality* of the result obtained with this group of depressants depends largely on the kind of mental organization on which the drug is acting. Perhaps we may have some comment on the opinion that the personality of the patient is more often the reason for the failure of one of these agents to provide the desired therapeutic effects than the fact that the wrong member of this group was used. Indeed, the same person in different mental states responds differently.

The greatest diversity in the response to these depressants is encountered among different individuals. In one, $\frac{1}{2}$ grain of phenobarbital causes mild depression with refreshing sleep. Another is hardly aware of the effect of three times as much. In another, a dose of 2 grains of phenobarbital sodium is given subcutaneously to promote sleep. He falls asleep but awakens three hours later and receives another dose of 2 grains. After three days of this treatment, new complaints arise—weakness, drowsiness, and stupor during the day; he falls asleep during a conversation. Despite this, sleep remains fitful and interrupted at night. The possibility of a complicating disease presents itself—dehydration, acidosis, or uremia. These new symptoms, however, turn out to be the result of cumulation of depressant effects of these drugs in one who is resistant to their hypnotic effects. The symptoms disappear completely when the drug is withheld for two or three days. There are many patients whose insomnia is not readily controlled by depressant drugs, and in the endeavor to enforce sleep by large doses a disagreeable “hangover” and stupor lasting for a day or two results.

When a patient is particularly resistant to the hypnotic effects, it is a common practice to increase the dose until sleep is produced. But in the process of the induction of sleep, as well as in the process of recovery, there are

apt to be periods of restlessness which are of the same nature as the periods of confusional unrest in the course of the induction of ether anesthesia. An endeavor to abolish this unrest by larger doses only serves to increase it after a temporary deepening of the narcotic effect. The spontaneous unrest has here been increased by the drug, and the only effective way of overcoming it is to discontinue the drug for a few days until most of it is eliminated.

This brings up another important question. Are there any significant qualitative differences in the action of the group of depressants? If we fail to secure the necessary mental and physical rest with one, are we likely to obtain it with another?

There is some experimental proof to the effect that the pattern of action on the central nervous system is not the same for the different members. Numerous illustrations can be cited. Saperstein and Wallace found that the aftercontraction (recruitment phenomenon) following tension of voluntary muscles against resistance was fairly regularly abolished by 2 Gm. of sodium bromide, while depressant doses of chloral or barbital were much less constant in their effect upon this function. In experiments on birds it has been shown (Steinmetzer) that one member of this group is more active in abolishing the postural and clasp reflexes than another. For example, it was found that a dose of chloral, which did not produce sleep in the hen, made the hen fall off the perch. It abolished the postural and the clasp reflex in the hen. On the other hand, when a large dose of one of the other hypnotics, such as sodium barbital, was given, the hen fell asleep but continued on its perch without any serious interference with the postural reflex. If, however, the doses were increased, the hen fell asleep and also fell off the perch. There is also some evidence assembled by Pick that chloral, paraldehyde, and other methane derivatives exert a relatively greater action on the cortex in contrast to the barbiturates, which exert a relatively stronger action on the brain stem. Koppányi, Gruser, and others found that the peripheral action of different barbiturates exhibit a different pattern: amylal, pernoston, pentobarbital, and very large doses of barbital block the peripheral vagus, while phenobarbital does not.

Facts such as these indicate that there might be some clinical conditions that would be more favorably influenced by one of these depressants than by another.

What these conditions are or even whether they exist has never been satisfactorily determined.

All that the literature contains are records of uncontrolled experiences. Sollman describes phenobarbital as a good hypnotic agent. Grabfield, on the other hand, describes it as a poor hypnotic and advises against its use as such. Diethelm believes that the difficulty in falling asleep is best treated with paraldehyde and chloral and that broken sleep or sleep of short duration is best treated by the barbiturates. Travell and Hanlon made some observations on barbiturates in different forms of sleeping difficulties and found that these drugs were effective regardless of whether the insomnia was in the nature of a difficulty in falling asleep or in the nature of broken sleep or short duration of sleep. Diethelm advises 1-Gm. doses of barbital for the insomnia of depression states and 0.2-Gm. doses of phenobarbital in senile insomnias. He also recommends a combination of barbital and phenobarbital as possessing special virtues.

These are illustrations of the intangible and contradictory nature of the testimony in regard to qualitative differences between these depressant agents. Scientific clinical investigation has never been put to work on this subject.

We cannot dismiss the possibility that occasionally qualitative effects might be secured with one of these agents when another fails. The way to find out, as far as I can see at the present time, is simply by the method of trial and error. There is, however, a right and a wrong way of going about it.

I should like to urge strongly that when you do shift from one to another of these depressant agents you should not abandon any one drug until its full power to produce the desired effect has been exhausted. Start with a small dose of one of them and, if the effect is insufficient or excessive, do not abandon it for another preparation but reduce the dose or raise the dose before trying another member. Much of the difference that we commonly encounter between the various agents of this group is due to the fact that we compare doses that are not comparable. One author, for example, referred to amytal as depressing the heart and the blood pressure more than other barbiturates, but he gave doses of 0.4-Gm. of amytal and 1 Gm. of barbital. In this way, in terms of potency, he gave twice as much amytal as barbital, because amytal is five times as potent a substance as barbital. The fatal

dose of amytal is about 60 grains and of barbital about 300 grains.

I have a strong suspicion that if we use suitable doses of one of these preparations, doses that are small enough or large enough, many of the differences between them will disappear. The peak effect of materials that are rapidly absorbed is more intense than in the case of those more slowly absorbed. This may result in effects that may have the appearance of a qualitative difference.

This brings us to another point. The various agents do show differences with respect to some of their physical properties, the speed of their absorption, the speed of onset of effects and the duration of their effects, which are of some practical significance.

This whole group of drugs is used for numerous purposes. When they are used as sedatives to control nervousness during the day or to induce sleep in the vast majority of minor disorders of sleep, relatively small doses are given. When, however, they are used as "chemical restraints" in manic psychoses, for the purpose of overcoming convulsions, or as basal anesthetics, the doses are apt to be extremely large.

The term "therapeutic index" is commonly used to describe the relative dangers of different members of the barbituric acid series. Some of the more rapidly eliminated barbiturates have a somewhat higher index than others. For example, it is found in dogs that it takes about 50 per cent more than the anesthetic dose to cause death with barbital sodium by oral administration, whereas it takes somewhat more than double the anesthetic dose of seconal to cause death. This is not a great difference, and few show a difference as large as this, but it might be a consideration when large doses are necessary, as in the treatment of convulsions or maniacal states. The therapeutic index can hardly have any bearing, however, on the selection of barbiturates when they are used in small doses for ordinary sedative and hypnotic effects. The sedative dose of pentobarbital sodium, for example, is about 0.5 to 1.0 mg. per kilogram, and the fatal dose is of the order of 85 mg. per kilogram. The sedative dose of phenobarbital sodium is also about 0.5 mg. per kilogram, and the fatal dose is about 150 mg. per kilogram.

The small differences, therefore, in therapeutic index constitute neither an advantage nor a disadvantage in the use of these compounds for sedative or hypnotic effects. I mention this matter because the "therapeutic

index" is prominently featured in the trade literature.

A word about the bromides. The bromides exert a limited depressant effect in a sense similar to that of carbromal or bromural. Whereas in the case of the barbiturates the depressant effect, depending upon dosage, ranges from one that is barely perceptible to complete narcosis, it is rarely possible to depress to the point of narcosis by means of the bromides with any dosage. Various salts are employed—sodium, potassium, lithium, strontium, and ammonium bromides. Some prefer one; some, another. As far as I know there is no satisfactory reason for these preferences. It has been stated that the sodium and potassium salts are superior to the others. Since these drugs are prescribed in similar doses by weight, one would suspect that the lithium or ammonium salts might give the appearance of being more effective, because a gram of these contains more bromine than a gram of the others. The lithium salt has 92 per cent bromine; the ammonium salt, 81 per cent; potassium salt, 67 per cent; and the sodium salt, only 57 per cent. I can see no significant advantage in the salt containing the larger amount of bromine.

When the bromides are given intravenously in animals, it makes a great difference as to whether one uses the sodium or potassium salt, because the potassium ion is extremely toxic and the animal dies of potassium poisoning rather than of bromine poisoning. The amount of potassium present in even large doses of potassium bromides, such as 4 to 6 Gm., would be only from about 1.25 to 2 Gm. a day. By oral administration that is not likely to produce any potassium poisoning. Irish peasants, eating mainly potatoes, are known to take 50 Gm. of potassium chloride daily. It is, of course, conceivable that in rare cases of advanced nephritis in whom the excretion of potassium may be poor such a factor may need to be taken into consideration.

A fact that doesn't seem to be generally appreciated is that the bromides are slowly excreted. They are rapidly absorbed and, when they enter the blood stream, they are distributed to the extracellular fluids. They apparently do not enter the cell. They behave like the chlorides in that respect. The body tends to keep the total halide concentration fairly constant, so that when the bromides enter the blood stream, halides are excreted by the kidney, both chlorides and bromides. It is generally stated that the kidney cannot

distinguish between chlorides and bromides and, when both are present in the blood stream, they are excreted in proportion to their relative concentrations. For example, if the bromides represent only 10 per cent of the total halides and the rest is the chloride, the kidney will excrete only about one-tenth as much bromide as chloride. The result is that bromide tends to stay in the blood and tissues for a long time.

Some recent experiments by Bodansky and Modell, which were made in the Department of Pharmacology, show that the kidney is not entirely blind to the difference between chlorides and bromides, because they found a somewhat higher concentration of bromides in the blood in relation to chlorides than in the urine and, when they gave a diuretic which caused marked increase in the urine flow, the difference between the blood and urine bromide concentrations tended to disappear. This suggested to them that there is selective reabsorption of bromides which would naturally be interfered with when the urine flow is markedly increased.

If one gives a patient 1 Gm. of sodium bromide daily, the bromide concentration rises rapidly, because only about 10 per cent or less of any dose is eliminated in twenty-four hours. After the first dose the blood concentration may be of the order of 5 mg. per hundred cubic centimeters, but at the end of the two weeks the concentration may reach 80 to 100 mg. per hundred cubic centimeters. If the drug is then discontinued, the blood bromides begin to diminish, and at the end of two weeks the concentration is about half of peak. It takes a month or longer for all of it to be excreted. That, then, is what happens whenever we give a patient one of the favorite bromide prescriptions, such as the National Formulary elixir of triple bromides, which contains a gram of bromides in every teaspoonful. It is not uncommon to find patients taking a teaspoonful three times a day for weeks on end as a sedative.

What is remarkable about this is the fact that the patient seems to be just as much in need of it at the end of a week or two as he was at the beginning, even though at the end the blood bromides were probably 80 to 100 mg. per hundred cubic centimeters. What this means, I am not sure. It can signify the development of a tolerance. Or were the early doses producing any effects?

Those who treat epilepsy with bromides warn that the daily dose should not be interrupted. If they are, there is danger of rapid

return of the epileptic seizures. I cannot quite understand what that warning means, since the interruption of the dose for a day or two is not likely to produce any considerable lowering of the blood bromides. Perhaps there are some here who might want to discuss that point.

Bromide poisoning consists of an intensification of the symptoms of depression. There is fatigue, drowsiness, ataxia, impaired memory, impaired power to grasp ideas, and diminished power of concentration. It is one of the most common causes of drug delirium. Toxic symptoms come on with bromide levels of about 150 to 300 mg. per hundred cubic centimeters of blood under most conditions, but there is a great deal of individual variation in susceptibility.

DR. CATTELL: It is clear that Dr. Gold has a great deal more to tell us, but first it would be desirable to have some comments on the practical experience in this hospital in the use of hypnotics. I wonder if Dr. Wheeler would say a few words?

DR. CHARLES H. WHEELER: The following table represents the use of various hypnotics in the New York Hospital and includes the outpatient department, the wards, and the private service:

Phenobarbital	600,000
Pentobarbital sodium (Nembutal)	40,000
Amytal sodium	10,000
Bromides	7,000
Chloral hydrate	6,400
Barbital	5,000
Paraldehyde	1,000
Amytal	900

The figures represent the number of average therapeutic doses of each drug used in 1939. For example, in that year we used 600,000 average therapeutic doses of phenobarbital, etc. It is interesting that we used fifteen times as much phenobarbital as any other hypnotic in this institution. Another interesting point is that the use of sodium pentobarbital has increased in the past year so that it has been doubled over what it was the previous year. Sodium pentobarbital is twenty times as expensive as phenobarbital and that goes for most of the others.

DR. EUGENE F. DUBOIS: In my own particular type of hospital practice most of the ordering of sedatives is done by the interns.

I am looking with interest on my old friends that we used when I was an intern—the bromides, chloral, barbital, and paraldehyde.

The favorite mixture was the combination of bromide and chloral. I should like to have Dr. Gold's comments. Is there any virtue in giving those two together?

Paraldehyde was almost always used with alcoholic patients. They did not mind the smell. It is hard to use it on a patient who is in a position to object, but I feel it is a valuable drug and here it is way down at the bottom of the list. It is quite evident that phenobarbital is the favorite at the present time, and I find myself using it instead of the other drugs.

I wonder why morphine and its derivatives were left off the list? They certainly act as sedatives and hypnotics.

DR. WHEELER: We left those off, Dr. DuBois, because so much morphine is used under circumstances that I do not think fall into a fair classification of hypnosis, such as postoperatively for coronary occlusion, shock, etc. To include all that would not be possible. Furthermore, morphine is habit-forming and should not be used as a sedative except under unusual conditions.

There is another interesting thing about that table and that is the partition between the ward use and the use on the private patient service. For example, although the bed capacity of the private patient service is small as compared with the wards, the private patient service used much more of the sodium pentobarbital than the wards used. The mixture of three bromides was used almost exclusively on the private service, while on the wards sodium bromide was used almost exclusively. Similarly, phenobarbital in the clinic was always dispensed in tablets, over a million tablets being dispensed during the year in various amounts, while on the private service the elixir of phenobarbital was used almost exclusively. This is hardly used in the ward.

DR. DUBOIS: I think the lesson is obvious. There are a good many differences financially and educationally between the private service and the wards.

Such a name as triple bromides is particularly attractive to the patient. Its supposed triple action is a point stressed in advertising.

One point I think should be remembered about these drugs is that some of them produce skin eruptions in patients who are susceptible.

DR. CATTELL: With reference to the surprisingly large figure representing the consumption of phenobarbital in this hospital, I should like to quote a remark made in one

of the conferences last year. When Dr. Wolff was asked why he used phenobarbital in epilepsy to the exclusion of other barbiturates, he replied that it is the one that he and others had had the most experience with and that it had given satisfactory results, but he suggested that there are probably others equally good. It may, thus, be a matter of tradition which gives preference to the long-established drug, and it is not necessarily indicative of any real advantage of one barbiturate over another.

I imagine the increasing use of sodium pentobarbital is connected with the fact that it is representative of the short-acting barbiturates that have recently been developed. It is eliminated with much greater rapidity than amytal or barbital. I wonder if you would discuss this matter further, Dr. Gold?

DR. GOLD: In regard to Dr. DuBois' question concerning the virtues of the combination of chloral and bromides, I do not believe that there is any satisfactory proof that the combination has any particular merits. Chloral is eliminated fairly rapidly and bromide slowly, so that any mixture containing both, if taken for a protracted period of time, results in progressive accumulation of bromides. The patient is then, by virtue of this difference in elimination, changing the doctor's prescription, since at the end of a week or two he is being affected not by the combination in the bottle but by the revised combination in the body, and this revision continues as the doses are continued.

There seems to be a tendency to revive interest in chloral hydrate, which was one of the first hypnotics of the methane series, introduced in 1869. A dose of 0.3 Gm. of chloral hydrate given two or three times daily produces satisfactory sedative effects, and a similar dose or a somewhat larger one, up to 0.5 or 1 Gm., taken at bedtime, is a fairly satisfactory hypnotic. It is absorbed fairly rapidly, so that effects appear within fifteen or twenty minutes and last from six to eight hours. Chloral has a reputation for depressing the blood pressure and the circulation. Indeed, anesthetic doses of chloral hydrate in animals produce a type of effect upon the heart which is similar to chloroform. For example, if a cat is incompletely anesthetized with chloral hydrate, a slight struggle not infrequently causes a sudden cessation of the heart beat with ventricular fibrillation. Prolonged use of large doses of chloral hydrate also causes injury of the liver in a manner similar to chloroform. Such effects, however, do not apply

to the sedative or hypnotic doses of the order of 0.3 or 1 Gm., and I am unable to find any satisfactory reason for the prevailing belief that chloral hydrate in doses of the foregoing order should be withheld from patients with heart disease.

I am also unable to find any reason for the increasing interest in chloral hydrate. It is a strong irritant, sufficiently strong to cause blistering of the skin. It cannot be given in the convenient form of tablets or capsules. It has an unpleasant taste. These may be regarded as advantages or disadvantages, depending upon the point of view. The tendency to continue its use in a careless manner is less likely in the case of a medicine that has to be put into a solution and which has a disagreeable taste than in the case of an agent such as a barbiturate which can be taken in a convenient tablet form. I think everyone should treat himself to a taste of the ordinary 10 per cent solution of chloral hydrate dissolved in water or peppermint water. To me it seems much like drinking a dose of a liniment. The taste can be masked more effectively, but in any case the teaspoonful dose should be well diluted with water.

Paraldehyde is reputed to be one of the safest of the depressants and relatively free of a depressant action on the circulation. I am not sure that we have any evidence that it is any safer than the short-acting barbiturates. Of course, we see fewer deaths from it than from the barbiturates, but may not that be due to the fact that paraldehyde is used so infrequently? In a recent report of deaths from sedative drugs covering a ten-year period in Massachusetts, paraldehyde accounted for 8 of the deaths and barbiturates for 152.

Paraldehyde is fairly rapidly absorbed from the gastrointestinal tract, marked effects being in evidence in ten minutes or less. It is also rapidly eliminated, recovery taking place within two to four hours after such a large dose as 20 cc. given orally, a dose that causes such a degree of narcosis that a patient in labor may not be aroused during a pain. Like other depressant agents, there is, in the case of paraldehyde, fairly marked individual variation in susceptibility, and a dose of 25 cc. has been known to cause death in one, while others have recovered from a dose of 150 cc. A dose of about a teaspoonful given orally or by rectum produces fairly deep sleep. It has recently been used by intravenous injection in doses of 1 cc. of the undiluted material to control convulsive states. Its tendency to decompose, especially when exposed to sunlight,

should be borne in mind. The decomposition gives rise to acetaldehyde, which is extremely irritant.

Dr. Cattell made reference to the short-acting barbiturates. This development is of considerable importance. Phenobarbital causes anesthesia lasting for twenty-four to forty-eight hours; amytal, eight hours; pentobarbital, two hours; and evipal, only thirty minutes. Some depressant effects of such large doses, however, last much longer, so that these may still be in evidence for as long as five or six days in the case of phenobarbital and as long as twenty-four to thirty-six hours in the case of pentobarbital. A patient who is resistant to the hypnotic effects of these compounds and requires a fairly large dose, say 2 to 3 grains of phenobarbital, to induce sleep is apt to be better off if, instead of phenobarbital, pentobarbital is used, especially if the doses have to be repeated every day for a period. The short-acting barbiturate is less apt to produce the so-called "hangover," drowsiness, and stupor the following day and is less apt to show cumulative depressant effects if it is used for several days. This constitutes an advantage or a disadvantage, depending upon the objective. I think we ought to stress the point that the short-acting barbiturates are not entirely free of the hangover symptoms, and a dose of 3 grains of pentobarbital sodium, such as is commonly used for hypnotic effects, not infrequently produces a state of mental dullness on the following day.

Pentobarbital sodium is destroyed for the most part probably by the liver. Barbitol is eliminated chiefly by the kidney. Phenobarbital is eliminated by both mechanisms, the largest part of it usually being destroyed. Experimental studies show that animals recover with difficulty from some of the short-acting barbiturates in the presence of severe hepatitis, whereas they recover with difficulty from barbitol in the presence of experimental nephritis. These facts suggest a basis for selection in their therapeutic use.

Another matter concerning the short-acting barbiturates: After entering the circulation their maximum action develops rapidly. An anesthetic dose, for example, will produce anesthesia if injected intravenously within a half a minute or a minute. In the case of barbitol, however, the action develops slowly even after the material has entered the circulation, so that an anesthetic dose will take as long as a half hour or longer to produce anesthesia. These facts suggest an advantage in

the short-acting barbiturates, but the phenomenon has not been studied in man.

A point that is not always understood is the difference between barbitol or phenobarbital and their sodium salts. The sodium salt of the barbiturates is soluble, whereas the acid form is not. Some barbiturates are provided in the market only in their soluble forms. The soluble forms are, on the whole, better absorbed. The soluble forms are suitable for intravenous injection. The solutions are strongly alkaline and are too irritant for subcutaneous or intramuscular injection as a rule. An exception to this is phenobarbital sodium, which is only slightly alkaline and which can be given satisfactorily by subcutaneous or intramuscular injection. The long-chain barbiturates are not very stable in solution and, therefore, are provided usually in ampules containing the salt to be made up into a solution at the time of its administration.

Perhaps one reason why chloral and paraldehyde should be more frequently used than they are at the present time is that the likelihood of their leading to addiction is less. In general, patients are not prone to continue them longer than they can help. Chloral hydrate possesses a frightful taste and paraldehyde a frightful smell. There are, of course, patients with exceptional tastes—those who have no objection to either chloral or paraldehyde. The convenient tablet form in which the barbiturates are put up has probably something to do with the wide prevalence of their use. In patients with potentially addictive personalities, the placing at their disposal of a medication in such a convenient form, and one that can often be secured without the physician's prescription, is a source of real danger. There is a report from a psychopathic hospital in Missouri to the effect that one out of every ten psychoses was due to barbiturates. There is no evidence that the barbiturates possess any special addictive properties not applicable to other sedatives. The frequent addiction to the barbiturates seems to be related merely to the fact that they are available in a convenient form and used over long periods of time in an indiscriminate manner.

Perhaps doctors contribute a good deal to this abuse because of the general practice of prescribing phenobarbital for want of something to prescribe.

DR. CATTELL: We should like to have a few comments in regard to the use of sedatives in psychiatric patients and will call on Dr. Doty.

of the conferences last year. When Dr. Wolff was asked why he used phenobarbital in epilepsy to the exclusion of other barbiturates, he replied that it is the one that he and others had had the most experience with and that it had given satisfactory results, but he suggested that there are probably others equally good. It may, thus, be a matter of tradition which gives preference to the long-established drug, and it is not necessarily indicative of any real advantage of one barbiturate over another.

I imagine the increasing use of sodium pentobarbital is connected with the fact that it is representative of the short-acting barbiturates that have recently been developed. It is eliminated with much greater rapidity than amylal or barbital. I wonder if you would discuss this matter further, Dr. Gold?

DR. GOLD: In regard to Dr. DuBois' question concerning the virtues of the combination of chloral and bromides, I do not believe that there is any satisfactory proof that the combination has any particular merits. Chloral is eliminated fairly rapidly and bromide slowly, so that any mixture containing both, if taken for a protracted period of time, results in progressive accumulation of bromides. The patient is then, by virtue of this difference in elimination, changing the doctor's prescription, since at the end of a week or two he is being affected not by the combination in the bottle but by the revised combination in the body, and this revision continues as the doses are continued.

There seems to be a tendency to revive interest in chloral hydrate, which was one of the first hypnotics of the methane series, introduced in 1869. A dose of 0.3 Gm. of chloral hydrate given two or three times daily produces satisfactory sedative effects, and a similar dose or a somewhat larger one, up to 0.5 or 1 Gm., taken at bedtime, is a fairly satisfactory hypnotic. It is absorbed fairly rapidly, so that effects appear within fifteen or twenty minutes and last from six to eight hours. Chloral has a reputation for depressing the blood pressure and the circulation. Indeed, anesthetic doses of chloral hydrate in animals produce a type of effect upon the heart which is similar to chloroform. For example, if a cat is incompletely anesthetized with chloral hydrate, a slight struggle not infrequently causes a sudden cessation of the heart beat with ventricular fibrillation. Prolonged use of large doses of chloral hydrate also causes injury of the liver in a manner similar to chloroform. Such effects, however, do not apply

to the sedative or hypnotic doses of the order of 0.3 or 1 Gm., and I am unable to find any satisfactory reason for the prevailing belief that chloral hydrate in doses of the foregoing order should be withheld from patients with heart disease.

I am also unable to find any reason for the increasing interest in chloral hydrate. It is a strong irritant, sufficiently strong to cause blistering of the skin. It cannot be given in the convenient form of tablets or capsules. It has an unpleasant taste. These may be regarded as advantages or disadvantages, depending upon the point of view. The tendency to continue its use in a careless manner is less likely in the case of a medicine that has to be put into a solution and which has a disagreeable taste than in the case of an agent such as a barbiturate which can be taken in a convenient tablet form. I think everyone should treat himself to a taste of the ordinary 10 per cent solution of chloral hydrate dissolved in water or peppermint water. To me it seems much like drinking a dose of a liniment. The taste can be masked more effectively, but in any case the teaspoonful dose should be well diluted with water.

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biturates, because aspirin does not, even in toxic doses, cause narcosis. It has a limited depressant action, but a great many do find aspirin an effective sedative.

Summary

DR. CATTELL: The conference on sedatives and hypnotics has not treated this subject exhaustively, but many points have been considered. Several questions have been raised and some have been answered. I may briefly review the more outstanding statements. The terms "sedative" and "hypnotic" do not describe drugs but effects. All the central depressants serve both purposes. The condition of the patient and circumstances of their use determine the effect. A small group of these materials meets all the needs. Sometimes one will produce desirable effects when another fails, although more often it is a matter of dosage, and there is a good deal of aimless shifting about from one to another without advantage. Some resistance to their hypnotic effects is developed upon continued daily use. Interruption for a few days restores the response. Many patients react unfavorably to all hypnotic agents. The same patient may react differently at different times. These defects are occasionally corrected by a change of preparation. There are many patients who do not secure sleep or rest from the action of these compounds. Even these can,

of course, be narcotized by large doses and thereby provide temporary rest for the patient and some relief for the attendants and physician. The value of this treatment must, however, be viewed in the light of the exaggerated unrest, weakness, protracted stupor, and confusional states that follow large and cumulative doses. The rapidly absorbed and rapidly eliminated compounds like pentobarbital sometimes produce satisfactory results not obtainable with compounds like phenobarbital which are slower in both respects, since in the former the peak effect is more intense and the duration less prolonged. In the discussion, special characteristics and uses of various members of the group—namely, the barbiturates, bromides, chloral, paraldehydes, and aspirin—received some attention. These depressants are used much too extensively, often for want of something else to prescribe. Habitual use establishes a form of addiction, a phenomenon that is fairly common for this group of drugs. Tradition seems to have played a large part in the choice of agents producing sedative and hypnotic effects. Testimony concerning the relative merits of the several members and their specific application is still based to a large extent upon rumor. Scientific clinical investigation has played much too small a part in the body of knowledge concerning this group of therapeutic agents.

POSTGRADUATE OBSTETRIC COURSES

Five postgraduate courses in obstetrics, each of four weeks' duration, will be offered at the Chicago Lying-in Hospital between January 12 and June 6, 1942. These are sponsored by the Illinois State Department of Health and the Children's Bureau of the U. S. Department of Labor.

The features of the program consist of observations on current managements of normal and abnormal states of the pregnant, parturient, and puerperal patient. Lectures, demonstrations, clinics, and other teaching means augment

the operating room and birth room observations and ward round discourses.

The course is run on a nonprofit basis. A deposit of \$25 is required on registration, \$10 of which is refunded at the completion of the course. All the members of the department participate in giving the courses.

Additional information and application blanks may be obtained by request from Postgraduate Course, Department of Obstetrics and Gynecology, 5848 Drexel Avenue, Chicago, Illinois.

FIFTY THOUSAND CHILDREN NEED SIGHT-SAVING CLASSES...

... according to Mrs. Winifred Hathaway, associate director of the National Society for the Prevention of Blindness. Such classes are now maintained in more than 200 cities, with an enrollment of about 9,000 boys and girls, but there are still around 41,000 who need these special educational facilities. The children are not segregated from their companions with normal

vision, for they attend all the classes except those requiring close eye work which is done in a separate room with special equipment.

According to Mrs. Hathaway, farsightedness is the most common visual defect among American school children, astigmatism is next, and nearsightedness is third. The beginning of the school year is a good time for the examination.

DR. EDWIN J. DORF: I might follow Dr. Wheeler's outline in listing the drugs and remarking on them.

During my experience in the psychiatric inpatient service we have not had such a great occasion to use phenobarbital. We find it does not provide the desired effects unless used in large doses. It probably has an effect in cases of psychoneurotic patients and that type of patient with tension where mild sedative measures are not sufficient to control the restlessness and tension. It also has been used in combating insomnia in senile patients. We have not used much pentobarbital in the past, though recently it has been used more. We have been interested in the quickness of response to this drug.

With regard to the barbiturate psychoses, we see these much less frequently than in 10 per cent of the admissions. In fact, I have heard it often remarked in the department that we see them very infrequently. We do occasionally see reactions where large amounts of amytal seem to be the basis of the difficulty in combination with other factors, such as diminished food and fluid intake.

Sodium amytal is thought to have a beneficial effect in the excited schizophrenic states. In some, the response is unsatisfactory. It seems to be related to the individual susceptibility.

I do not think that bromides are used so much as formerly, when it was quite a fashion in the state hospitals to use what one might term "heroic doses." These were often as high as 30 or 40 grains, three times a day for a week, especially in catatonic excitements. At the present I believe just as good results are being obtained from smaller doses. Bromides have another use in agitated depressions and so-called involution melancholias, often with sexual tension. It seems to act specifically in diminishing the sexual tension.

Chloral hydrate is not used much by us, although the chief of the department is not impressed with the effect that has been referred to for years—namely, that it is deleterious to the myocardium.

Barbital would come much higher in our list of frequency of usage. In the clinic it is used a great deal in the agitated depressed states of later life depressions and in panic reactions. Often the administration of $2\frac{1}{2}$ grain doses, three or four times a day, seems to have beneficial effects in decreasing tension and avoiding panic reactions in patients subject to terrifying auditory hallucinations.

Paraldehyde, Dr. DuBois will probably be

interested in noting, is still the sedative of choice in the alcoholic group. When sedation is required we resort first to prolonged baths and other measures. We tend to avoid using wet packs from the cardiovascular standpoint. When the baths fail to give the desired results, we often use paraldehyde, perhaps in somewhat larger doses than would be used on the medical service, tending to give doses beginning with 12 cc. and going up to 30 cc. We have also used it in excited patients of the manic or catatonic type who have had a great deal of hydrotherapy and where we wanted to try some other measures. It has been used in excited patients where it is dangerous to give them something into the muscles or intravenously. Sometimes in these excited states it is possible to give it to the patients by nasal tube, and it has been used quite a bit in the past in that fashion with no undesirable results. One recent patient was given this at intervals for over a year while in the hospital. We had plenty of opportunity to check the patient psychologically and physically after recovery, and no changes were found which could be attributed to its use over a long period of time and in large doses.

With regard to bromides, I am not able to give definite answers to the particular questions raised regarding their use in epileptics. At times the blood concentration of the bromide in epileptics, after one has used large doses, reaches 400 mg. per hundred cubic centimeters without neuropsychiatric disturbances other than perhaps lassitude, and then suddenly convulsions will reappear even before the drug is stopped. Then one may discontinue the bromides and resort to phenobarbital and the convulsions will stop again.

We still see a fair number of acute toxic psychoses due to the unwise use of bromides. There the different bromide levels found in the blood seem to reflect the varying susceptibilities of the patients.

DR. JANET TRAVELL: There is one drug not on that list which is quite widely, and perhaps indiscriminately, used, at least by the lay public, and that is aspirin. I wonder if Dr. Gold would say whether it has any basis for use as a sedative and hypnotic?

DR. GOLD: Aspirin has sedative action. Aspirin raises thresholds, as Dr. Wolff and his collaborators have shown, in very much the same way as most of the other compounds we have considered. All the analgesic agents exert some sedative effects, for example, acetanilid or phenacetin. It belongs to the group behaving like bromides rather than the bar-

1. Preparation for blackout, so that hospitals may continue essential services and handle casualties under blackout conditions.

2. Protection of personnel from flying glass.

3. Fire protection with particular reference to control of incendiary bombs.

4. Protection and clearance of basement. Establishment of basement operating rooms.

5. Mapping of utilities and provision for sectional control and auxiliary service.

6. Clearance and fireproofing of attic and provision of accessible entrances to attic and roof.

7. Provision of reserve stocks—beds, blankets, food, fuel, drugs and biologicals, surgical dressings, etc.

The Hospital as a Training Center

As a training center the hospital serves a vital role in the civilian defense program. It alone can train nurses and volunteer nurses' aides.

Hospitals are keenly aware of the present deficiency in the supply of trained nurses. It is essential, for the protection of the public, that hospitals with training schools step up their production to the full limit of their resources. A recent hurry-up survey of hospitals by the New York State Health Preparedness Commission showed that approximately 10 per cent of available hospital staff positions were unfilled, due to inability of administrators to obtain properly qualified nurses. This was the state of affairs before the United States became involved in the War.

It is fully appreciated that the present needs cannot be met, or even partially met, with the speed now necessary, by accelerating the training of full-fledged nurses. For this reason the Office of Civilian Defense and the Red Cross, on

September 1, launched a program for the training of 100,000 volunteer nurses' aides—pinch hitters for wartime America.

Strict standards of selection of volunteers, intensive training, and a probationary extra-mural period are required in order to protect hospitals from defense dilettanti. Nurses' aides, working always under trained nurses, can carry a significant share of the hospital nursing load and can play an important community role by assisting in school, industrial, public health, and visiting nurse services. During enemy air attack they would be essential for the proper functioning of casualty stations and first-aid posts.

Internal Organization

So that smooth and efficient operation may be maintained under any conditions, plans must be made now for the reception of casualties. This must include plans for efficient distribution and routing of casualties to treatment, fracture, and operating rooms and to wards. Provision should be made for expansion of all of these facilities. Surgical teams, general and special, should be organized. Essential nonprofessional as well as professional personnel should be placed on call and priority of call established.

"Air Raid Protection of Hospitals," already distributed in preliminary form, will be available soon in final form as *Bulletin No. 3* of the Medical Division of the O.C.D. It includes suggestions on internal organization.

It is time now for hospitals to prepare themselves for any eventuality. No one knows whether the United States will be bombed. All that is known is that there are tremendous forces anxious to destroy our cities and our people.

That should be enough to stimulate action.

FOUR PHYSICIANS WHO MADE HISTORY

On a recent radio "quiz" program the question was asked, "How many signers of the Declaration of Independence were physicians?" It would be interesting to find out how many physicians know the answer. Well, here it is. There were four.

Dr. Lyman Hall, a graduate of Yale University in 1747, was ordained a minister and later practiced medicine in Connecticut, South Carolina, and Georgia. He was an ardent advocate of the Revolutionary cause and became a delegate to the Continental Congress. He was elected Governor of Georgia in 1783.

Dr. Benjamin Rush attended the College of New Jersey (now Princeton), graduating in 1760. He studied medicine under Dr. John Redman from 1761 to 1765, also attending the lectures of Dr. William Shippen and Dr. John Morgan in the College of Philadelphia and completing his medical education in Edinburgh in 1768. He returned to Philadelphia and began the practice of medicine. He became a member of the Continental Congress, and in April, 1777, was appointed Surgeon General of the Armies of the middle department. A member of the staff of the Pennsylvania Hospital, he established the first free dispensary in the country in 1786. He was Treasurer of the United States Mint from

1797 to 1813 but later devoted himself entirely to his practice and teaching.

Dr. Josiah Bartlett was born in 1729 and began the study of medicine at the age of 16 in the office of a distant relative, Dr. Ordway. Five years later he established a practice in New Hampshire. He was not only a physician but was active in public affairs, being elected Governor of New Hampshire and later Chief Justice of the Supreme Court of that state.

Dr. Matthew Thornton emigrated with his parents to America about 1718, settling first in Maine and later near Worcester, Massachusetts, where he studied medicine. In 1740 he began practicing in Londonderry, New Hampshire. Later he established his home in Connecticut. Giving up his professional practice, he became active in political affairs.

It is significant that few physicians today are outstanding figures in public affairs. At present there are only a handful of physicians in Congress, there being no Senators and less than a dozen Congressmen who are doctors of medicine. As has been emphasized by many who have commented on this subject in recent years, the country needs the public leadership which physicians are qualified to give.

—*Medical Annals of the District of Columbia*

Medical Preparedness

THE HOSPITAL IN CIVILIAN DEFENSE

H. VAN ZILE HYDE, M.D., Regional Medical Officer

Office of Civilian Defense, Second Civilian Defense Region

THE sudden advent of war, bringing with it a real threat to the civilian population of the United States, has impressed the hospitals of the country with the grave responsibilities they carry in relation to the protection of the public under attack from the air. The Medical Division of the U. S. Office of Civilian Defense published its recommendations concerning the establishment of Emergency Medical Service last August. Problems relating to blackout, protection of buildings, organization of emergency services, which seemed academic on Saturday, December 6, are now of immediate concern to every hospital administrator and to every physician. This sudden change in the status of these problems demands rapid orientation on the part of responsible hospital officials in matters relating to civilian defense and the hospital's part therein.

The hospital must integrate its services into the civilian defense mechanism of the community which it serves; assume responsibility for the proper protection of its own property; serve as a training center; and develop effective internal organization for the handling of casualties.

Integration with Civilian Defense Organization

In order that casualties occurring unexpectedly, often in large numbers and under chaotic conditions, may be promptly and properly handled with a minimum loss of life, hospitals must fit in with the complex mechanism which is being set up in all communities for the prompt delivery of necessary services to points of disaster. This mechanism consists of a system of control centers, each control center providing emergency services for a district. In each district control center there will be a civilian defense director or commander. With him there will be individuals responsible to him for each of the essential emergency services. In the control center a "medical adjutant" will represent the Chief of Emergency Medical Service and be responsible for the proper deployment of emergency medical field units, the establishment of casualty stations, first-aid posts and other medical emergency facilities. He will also keep the transport officer in the control center advised as to the need for ambulances and other transportation facilities required for the casualty services within the area. He will keep informed as to the number of available beds in the hospitals in the control area and will route casualties accordingly.

In large cities it will be necessary to have a main control center with all the facilities of the city at its disposal, in order to mobilize support for the control areas whose facilities are strained beyond their capacities. The main control center will keep informed through the District

Control Centers of the daily census of hospital beds available in all districts of the area and the status of all Emergency Medical Field Units and of all ambulances and other vehicles available in the various districts.

This control mechanism is being set up by the local authorities. To organize the casualty services, which are an essential part of the Emergency Services provided by the control mechanisms, Chiefs of Emergency Medical Service have been appointed on a county or city basis. They have prepared or are preparing spot maps for use in the control centers. These maps show the size and location of hospitals, the sites where casualty stations can be set up, the size and location of Emergency Medical Field Units, and other information necessary for the proper functioning of the medical adjutant in the control center.

Through the Chief of Emergency Medical Service, each hospital can determine how it fits into the general plan of emergency service in its community. As a basic necessity, every hospital has been urgently requested to form, drill, and equip Emergency Medical Field Units as described in Bulletins Nos. 1 and 2 of the Medical Division of the Office of Civilian Defense. These units are the tools with which the medical adjutant must work in providing effective casualty service to the population in his district in time of need.

The Chief of Emergency Medical Service carries a heavy responsibility. He is advised by the County Health Preparedness Committee and assisted by the New York State Health Preparedness Commission and the U. S. Office of Civilian Defense. He is responsible to the local Defense Council.

Protection of Hospital Property

Complete protection of property against damage from enemy air attack is impossible. Certain important measures can be taken, however, to ward off attack and to limit damage caused by attack. The extent to which these measures are carried out by any hospital, must depend upon the strategic importance of the area in which it is located, the structural characteristics of the building, the resources of the hospital, and the foresight of its management. The American Hospital Association and the Medical Division of the U. S. Office of Civilian Defense, working together, have drawn up and issued recommendations concerning the "Air Raid Protection of Hospitals." Using this in conjunction with "Blackouts" and "Glass and Glass Substitutes," published by the Office of Civilian Defense, hospital administrators are in a position to proceed according to the requirements of their own areas. The matters to be taken under immediate consideration are:

Medical News

Dr. Moorhead on Active Duty in Honolulu

EVENTS have proved that the lecture committee of the Medical Society of Honolulu was keenly foresighted in inviting Dr. John J. Moorhead, of New York City, to deliver a series of lectures on traumatic surgery. Dr. and Mrs. Moorhead arrived in Honolulu but a few days before the treacherous Japanese, and, instead of lecturing, Dr. Moorhead, a lieutenant-colonel

in the Medical Reserve Corps, returned to active duty, according to a report published in the *New York Sun* on December 12.

Dr. Moorhead—an authority on traumatic surgery—is on the staff of New York, Post-Graduate Hospital as consulting surgeon and is on Governor Lehman's committee on civilian defense.

County News

Albany County

On December 10 the following officers were elected: president, Dr. John J. Phelan; vice-president, Dr. Morgan O. Barrett; secretary, Dr. Homer L. Nelms; treasurer, Dr. Frances E. Vosburgh; and historian, Dr. Emerson Kelly. Censors are: Dr. T. O. Gamble, Dr. E. S. Goodwin, Dr. J. B. Horner, Dr. R. G. Leddy, and Dr. E. W. Wilkins. Delegates are: Dr. Otto Faust, Dr. R. F. Kircher, and Dr. Homer L. Nelms. Alternate delegates are: Dr. William Feltman, Dr. J. L. Lochner, Jr., and Dr. Clarence Traver.

The Nominating Committee consisted of Dr. John E. Heslin, chairman; Dr. Arthur M. Dickinson; Dr. Thomas Tyrrell; Dr. James W. Bucci; and Dr. Earle W. Wilkins.—*Homer L. Nelms, Secretary.*

Broome County

At the annual election of the county society held December 9, the following officers were elected for the year 1942: president, Dr. Elton R. Dickson, Binghamton; vice-president, Dr. F. G. Moore, Endicott; secretary, Dr. H. Jackson King, Binghamton; assistant secretary, Dr. M. A. Carvalho, Binghamton; treasurer, Dr. C. H. M. Goodman, Binghamton; and assistant treasurer, Dr. G. T. Riley, Binghamton.

The chairmen of the committees are as follows: economics, Dr. C. J. Marshall, Binghamton; legislative, Dr. V. W. Bergstrom, Binghamton; library, Dr. S. B. Blakely, Binghamton; membership, Dr. R. J. McMahon, Johnson City; public health, Dr. W. J. Farrell, Johnson City; public relations, Dr. F. M. Dyer, Binghamton; and milk commission, Dr. P. B. Jenkins, Binghamton.

The Board of Censors are: Dr. S. D. Molyneaux, chairman, of Binghamton; Dr. C. H. Verlinghof, of Binghamton; Dr. J. J. Cunningham, of Binghamton; Dr. G. C. Hamilton, of Binghamton; and Dr. F. G. Moore, of Endicott.

The Compensation Board are: Dr. H. I. Johnston, of Binghamton; Dr. A. R. Carpenter, of Binghamton; Dr. D. C. Chamberlain, of Binghamton; and Dr. F. G. Moore, of Endicott.

Delegates are Dr. C. M. Allaben and Dr. C. L. Pope, of Binghamton; alternate delegates are Dr. S. M. Allerton and Dr. S. B. Blakely, of Binghamton.—*H. Jackson King, M.D., Secretary.*

Chemung County

New officers, elected at the annual meeting

on November 26 in Elmira, are: president, Dr. Leon C. Hamilton; vice-president, Dr. F. Sullivan Hassett; secretary, Dr. Harold L. Walker; treasurer, Dr. M. Frederick Butler.

Dr. William T. Boland, chairman of the Public Health Committee, recently announced that inoculation of every resident of Chemung County who has not already been immunized against diphtheria, smallpox, tetanus, typhoid fever, and whooping cough has been declared necessary by the county society.

The recommendation has been made because of the influx of workers in defense industries in the area, Dr. Boland said. A resolution on the program was adopted at the annual meeting of the Medical Association.

A "Maternal and Child Welfare Day" was conducted December 10, to afford physicians in this area an opportunity for postgraduate study. The program was presented under the auspices of the Maternal and Child Welfare committees of the Allegany, Steuben, Schuyler, Tompkins and Chemung county medical societies, the Arnot-Ogden Hospital, the Division of Maternity, Infancy and Child Hygiene of the New York State Department of Health, and the Medical Society of the State of New York.

Clinton County

The annual fall meeting of the county society was held on November 25. The following officers were elected for the incoming year: president, Dr. Dana Weeks, Peru; vice-president, Dr. Leonard Schiff, Plattsburg; secretary, Dr. James J. Reardon, Plattsburg; treasurer, Dr. K. M. Clough, Plattsburg; censors, Drs. Elme Wessell, Sidney Mitchell, and William W. Johnson, all of Plattsburg.—*James J. Reardon, M.D., Secretary.*

Delaware County

The December meeting of the Society was held in Delhi on December 16 at the Elm Tree Restaurant.

Dr. Stuart B. Blakely, of Binghamton, presented to the society "An Analysis of Four Maternal Deaths."—*O. Q. Flint, Secretary.*

Dutchess County

A regular meeting of the county society was held on December 10 at the Amrita Club in Poughkeepsie.

Cancer Teaching Day—Syracuse

The Cancer Teaching Day, presented under the auspices of the Tumor Clinic Association of the State of New York, the Syracuse University College of Medicine, the Medical Society of the State of New York, and the Division of Cancer Control of the New York State Department of Health, will be held at the Syracuse University College of Medicine, 766 Irving Avenue, Syracuse, New York, on Saturday, January 17, 1942.

Program

The Syracuse meeting called to order at 1:30 P.M.

Opening remarks: HERMAN A. WEISKOTTEN, M.D., Dean, Syracuse University College of Medicine.

Chairman of the meeting: FREDERICK S. WETHERELL, M.D., President, Tumor Clinic Association of the State of New York.

"The Role of Tumor Clinics in Cancer Control," BOWMAN S. CROWELL, M.D., Associate Director, American College of Surgeons, Chicago. Discussion: LOUIS C. KRESS, M.D., Director, Division of Cancer Control, State Department of Health, Albany, New York.

"The General Practitioner and the Diagnosis of Cancer," LLOYD F. CRAVER, M.D., Attending Physician, Memorial Hospital, New York City. Discussion: KARL F. ESCHELMAN, M.D., Director, Tumor Clinic, Edward J. Meyer Memorial Hospital, Buffalo, New York.

"Advances in Surgical Treatment of Cancer," JOHN J. MORTON, JR., M.D., Professor of Surgery, University of Rochester School of Medicine, Rochester, New York. Discussion: GEORGE W. CURTIS, M.D., President-Elect, Medical Society of the State of New York, Jamestown, New York.

"Biopsy—Indications and Methods," J. HOWARD FERGUSON, M.D., Associate Professor of Pathology, Syracuse University, College of Medicine, Syracuse, New York. Discussion: RUDOLPH J. SHAFER, M.D., Pathologist, Corning Hospital, Corning, New York.

Dinner Meeting

6:15 P.M. Small Ballroom, Hotel Syracuse, Syracuse, New York.

Chairman of the meeting: O. W. H. MITCHELL, M.D., Syracuse, New York.

Opening remarks: EDWARD S. GODFREY, JR.,

M.D., Commissioner, New York State Department of Health.

"Principles of Radium and X-Ray Therapy," G. ALLEN ROBINSON, M.D., Director, Tumor Clinic, Flower and Fifth Avenue Hospitals, New York City; WALTER T. MURPHY, M.D., Radiologist, State Institute for the Study of Malignant Diseases, Buffalo, New York.

"X-Ray as a Diagnostic Aid in Cancer," BYRL R. KIRKLIN, M.D., Chief, Section on Radiology, Mayo Clinic, Rochester, Minnesota.

Local Committee on Arrangements

Leo E. Gibson, M.D., *Chairman*

Wardner D. Ayer, M.D.

Donald S. Childs, M.D.

Arthur N. Curtiss, M.D.

James G. Derr, M.D.

H. Burton Doust, M.D.

Richard S. Farr, M.D.

J. Howard Ferguson, M.D.

Leon H. Griggs, M.D.

Lee A. Hadley, M.D.

Louis M. Hickernell, M.D.

Gordon D. Hoople, M.D.

Arnold B. Kauffman, M.D.

Clark J. Laus, M.D.

Ambrose T. Lawless, M.D.

Earle E. Mack, M.D.

Brooks W. McCuen, M.D.

Carl E. Muench, M.D.

Dwight V. Needham, M.D.

Edgar M. Neptune, M.D.

Mitchel A. Obremski, M.D.

Frederick J. O'Connor, M.D.

Charles D. Post, M.D.

Carlton F. Potter, M.D.

George S. Reed, M.D.

Edward C. Reifenstein, M.D.

Foster C. Rulison, M.D.

Nathan P. Sears, M.D.

Albert G. Swift, M.D.

Julius Voehl, M.D.

Frederick S. Wetherell, M.D.

Tyree C. Wyatt, M.D.

All physicians in the state are cordially invited. The price of the dinner is \$2.00. No other fees will be charged. Dress: informal. The sponsoring agencies are anxious to know how many will attend the afternoon session and how many the dinner meeting. Reservations should be addressed to: O. W. H. Mitchell, M.D., *Chairman*, Council Committee on Public Health and Education, Medical Society State of New York, 428 Greenwood Place, Syracuse, New York.

JOURNAL OF THE NEW YORK COUNTY MEDICAL SOCIETY

Beginning January 3, 1942, the *Journal of the Medical Society of the County of New York* will make its appearance, replacing the *New York Medical Week*, which for many years has been

the official publication of the society. The new *Journal* will have a larger format, and the offices will be located at 2 East 103rd Street, New York City.

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A clear case of Ivory's new mildness!

For a baby's skin—or just for the joy of bathing—New "Velvet-Suds" Ivory Soap is better than ever! It gives the quickest, creamiest lather that ever foamed off a cake of Ivory—and it's actually milder.

Ivory's uniformly high standard of mildness is far superior to that of imported olive oil castiles. In fact, a recent examination of imported castiles showed that 42 out of 44 examples showed definite evidence of rancidity—an irritating factor.

Ivory is uniformly mild—milder than 10 leading toilet soaps by test, milder than any other widely advertised floating soap. No

dye, medication, or strong perfume that might be irritating. You can advise new improved Ivory with confidence.

FREE—for your use in maternity cases, a 16-page illustrated booklet "*Bathing Your Baby The Right Way.*" The technique described is approved by the Maternity Center Association of New York. It covers correct methods of handling baby, equipment, and a step-by-step outline of the bath. We will gladly send you a free copy with order blank for additional copies. Simply send postcard to Procter & Gamble, Dept. N, Box 687, Cincinnati, Ohio.

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On the program was Dr. Scott Lord Smith, F.A.C.P., attending physician at Vassar Brothers Hospital, Poughkeepsie. His subject was "Sulfonamides and Related Compounds."

Erie County

At the Buffalo Academy of Medicine on December 3 Dr. Samuel C. Harvey, professor of surgery, Yale University, spoke on "Problems of Wound Healing." Dr. Herbert A. Smith and Dr. Hoyt E. DeKleine led the discussion.

Dr. Philip W. Brown of the Mayo Foundation, University of Minnesota, talked on "Diagnosis and Treatment of Diarrhea" on December 10.

"The times require nonobstructive organization among physicians," Dr. George W. Cottis, of Jamestown, president-elect of the Medical Society of the State of New York, told members of the Medical Society of Erie County at the November meeting.

He asserted that the chief function of an organized society is to get together, formulate wise policies, and then put them over. He pointed out that social and economic changes are being accelerated at a tremendous rate.

Discussion Important

"Our own traditions and the laws of the state require that we shall be responsible to individuals," he said. "We must retain our individualistic traditions and not obstruct every change that is bound to come. There never has been a time so important that we get together and discuss the problems facing us. The purpose of debate is to iron out differences and determine what we should do.

"It is time that we took the offensive, listened to our best brains, adopted policies and then put them over. Already we are being governed largely by groups. The government is being changed from a legislative government to an executive government by groups. Our paramount interest is to see that when that day comes, we are our own managers."

Greene County

Public opinion won a victory in Greene County on November 10, according to the S.C.A.A. Bulletin, when the Board of Supervisors authorized an appropriation of \$7,118 for the employment of three county public health nurses. State aid will return to the county one-half of this expense, and the State Health Department has promised the services of two additional nurses, making five in all.

Behind the accomplishment is a classic example of resourcefulness, planning, persistence, and teamwork exercised by the Greene County Tuberculosis and Public Health Association.

Greene County, population 23,191, with Catskill the largest community, discontinued its nursing services early in the depression. In 1938 it was one of the fourteen counties selected for intensive promotion of public health nursing by the State Health Department and the S.C.A.A. State Committee on Tuberculosis and Public Health. No county appropriation was secured, but this effort resulted in the County Association employing an executive secretary, Mrs. Frederick C. Fiero, who, with assistance from the District Office of the State Health Department

and the State Committee staff, launched a campaign of public education on the need for nursing service in the county.

Herkimer County

The 135th annual meeting of the county society was held in the parish hall of Christ Episcopal Church in Herkimer on December 9, at 4:00 P.M.

The scientific program included an address by the president, Dr. H. D. Vickers, Little Falls, and a paper, "History of Ophthalmology," by Dr. D. F. Aloisio, Herkimer. The annual reports of other officers were given, and officers for 1942 were named.

The annual banquet was served at 6:00 P.M.

Jefferson County

The regular monthly meeting of the county society was held on December 11 at the Black River Valley Club in Watertown. Dinner preceded the program, which consisted of an address on "The Management of Gastrointestinal Bleeding," by Dr. Lawrence A. Kohn, associate in medicine at Strong Memorial Hospital, Rochester.

Kings County

At the first annual dinner to ex-presidents of the county society and the Academy of Medicine of Brooklyn to be held on January 17 at the Hotel St. George, Brooklyn, Colonel Samuel J. Kopetzky, president of the State Medical Society, will present the medals and scrolls. Speakers announced are Mayor La Guardia and Dr. Morris Fishbein.

At the regular meeting on December 16 Dr. William R. Cubbins, of Chicago, spoke on "Injuries About the Knee Joint." Officers were elected at this meeting and will be printed in the next issue.

At the annual meeting of the Brooklyn Urological Society, the following officers were elected: president, Dr. James W. McManus; vice-president, Dr. Samuel E. Last; and secretary-treasurer, Dr. John J. Bottone.

Livingston County

Dr. Kenneth T. Rowe, of Dansville, spoke on "Common Problems of Urology at the meeting held on December 10 at the LaDelfa Hotel, Mt. Morris. The woman's auxiliary held a separate meeting at the same time.

Monroe County

On December 16 the annual meeting of the county society was held in Rochester. Dr. Morris Fishbein, the speaker of the evening, was honored at a dinner preceding the meeting.

Dr. Frank H. Lahey, director of the Lahey Clinic and president of the A.M.A., addressed the Rochester Academy of Medicine on December 2. The subject of Dr. Lahey's talk was "Cancer of the Colon and Rectum." Reporting a series of 1,200 cases, Dr. Lahey drew his deductions in an interesting way for the general practitioner.

A dinner before the meeting was given at the Country Club for Dr. Lahey.

[Continued on page 823]

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dye, medication, or strong perfume that might be irritating. You can advise new improved Ivory with confidence.

FREE—for your use in maternity cases, a 16-page illustrated booklet "*Bathing Your Baby The Right Way*." The technique described is approved by the Maternity Center Association of New York. It covers correct methods of handling baby, equipment, and a step-by-step outline of the bath. We will gladly send you a free copy with order blank for additional copies. Simply send postcard to Procter & Gamble, Dept. N, Box 687, Cincinnati, Ohio.

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[Continued from page 80]

Montgomery County

At the annual meeting of the county society the following officers were elected for 1942: president, Dr. James M. Bernhard; vice-president, Dr. William Bing; secretary, Dr. Roger Conant; treasurer, Dr. Leonard M. McGuigan; delegate to the State Society, Dr. Robert C. Simpson; alternate, Dr. P. J. Fitzgibbons; delegate to the Fourth District Branch, Dr. Charles E. Slater. With the exception of Dr. Slater, who is from Fort Plain, all the officers live in Amsterdam. —*Roger Conant, M.D., Secretary.*

New York County

The following letter was recently printed in the *Medical Week*:

"Editor, Public Forum: The editorial appearing in the current issue of *Medical Week* discussing the various voluntary health care plans in operation is excellent. As you know, my particular interest is that such statements should be made as that which you make on page 5: ' . . . it is undoubtedly to the interest of the profession and the community as a whole that there be experimentation along various lines.'"

"There is one implication in your editorial, however, which I think is unintentional, namely, that a physician must choose between the Medical Expense Fund of New York and Group Health Cooperative, and that enrollment in one precludes participation in the other. This, of course, is not the case. Physicians can operate under both plans without any complications, and I am sure that there are a good many physicians in New York who would like to have this matter cleared up for them.

KINGSLEY ROBERTS, M.D., *Chairman,*
Medical Advisory Board"

1790 Broadway,
November 25, 1941

At the monthly meeting on December 22 Dr. Leona Baumgartner spoke on "School Health Program and the Private Physician." Mr. John Splain, Metropolitan director, Safety-Responsibility, spoke on the Safety Responsibility Act. Dr. Miles Atkinson had as his subject "Medicine as a Social Science."

Onondaga County

The following officers were elected at the annual meeting of the county society held in Syracuse on December 2: president, Dr. Ambrose T. Lawless; vice-president, Dr. Herbert C. Yeckel; secretary, Dr. Dwight V. Needham (re-elected); treasurer, Dr. A. Carl Hofmann (re-elected); delegate to State Society (3-year term), Dr. A. G. Swift; alternate delegate to State Society (3-year term), Dr. D. S. Childs; and delegates to Fifth District Branch, Dr. F. G. Dye, Dr. W. O. Kopel, Dr. M. A. Obremski, and Dr. M. S. Richards.—*Dwight V. Needham, M.D., Secretary.*

Rockland County

Dr. E. Armand Scala, of Suffern, was elected president of the Rockland County Medical Society at its annual meeting and dinner at the Villa Lafayette in Spring Valley on December 3.

Vice-president is Dr. E. Hall Kline, of Nyack, and Dr. Dean Miltimore was re-elected once more

after a full quarter-century of service as treasurer. Another perennial of long standing is Dr. William J. Ryan, of Pomona, who will once more be secretary. Dr. Matthew J. Sullivan, of Haverstraw in a short address marking his retirement, paid high tribute to the service Dr. Miltimore and Dr. Ryan have rendered the society.

Dr. F. B. Theis, of Nyack, was made chairman of the membership committee (Dr. Miltimore announced there were 100 members in good standing), and Dr. Russell E. Blaisdell, of Orangeburg, is chairman of the legislative committee Dr. Frederick A. Schroeder, of Pearl River, is chairman of the public health and public relations committee, with Dr. Alfred S. Moscarella, of Spring Valley, as cochairman. Dr. Harold S. Heller, of Spring Valley, is chairman of the committee on medical economics, with Dr. Frank E. Ciancimino, of Nyack, as cochairman.

Elected to the Board of Censors for two years, with the exception of the vice-chairman, are Dr. George M. Richards as chairman, Dr. Sullivan as vice-chairman, Dr. George G. Stone, Dr. John C. Dingman, Dr. Royal F. Sengstacken, and Dr. Edwin O'Dowd. The delegate to the State Medical Society for 1942-1943 is Dr. Stephen R. Monteith, with Dr. Ryan as alternate.

Introduced were Dr. Terry Townsend, a former president of the State Medical Society, Assemblyman Robert Doscher, and Dr. S. W. S. Toms, of Nyack, in whose honor the county society held a dinner on December 11 at the Hotel St. George in Nyack in observance of his fifty years of active practice. Dr. Toms was eighty on that date.

Speakers of the evening were Dr. F. R. Strutton of the State Hospital, Dr. Leon H. Goldberg, of Nyack, and Roland Logan, trainer for varsity athletics at the West Point Military Academy. Mr. Logan mingled sparkling Irish wit, oratory, and song with experience in his long career of training athletes.

Schenectady County

Judging from the picture of the "Calomelodians" in the *Bulletin* and the *Schenectady Gazette* there isn't much difference between, say, Glen Miller's boys and Glen Smith's, for the society orchestra certainly has that unmistakable professional look.

The orchestra was organized in February, 1940, and its members rightfully feel that it serves a double purpose: "Besides providing entertainment and amusement, an enterprise of this sort is one of the best influences to maintain a solid, wholesome spirit of congenial fellowship among the entire medical society."

Members of the orchestra, in addition to Dr. Smith, conductor, are Drs. C. F. Ackerknecht, Philip Parillo, Nelson H. Rust, William M. Mallia, F. H. Pulver, Gomer Richards, H. W. Galster, R. L. Faulkner, Raymond H. Warner, J. H. Kalteux, R. J. Hotchkiss, E. G. St. John, Michael Slovak, J. J. York, R. C. Maxon, C. L. Moravec, G. A. Reich, S. F. MacMillan, D. K. Binder, August B. Korkosz, and H. E. Reynolds.

At the annual meeting at the Mohawk Golf Club in Schenectady on December 4 the Doctors' Orchestra played several selections. The speaker of the evening was Charles John Stevenson, editor of the *Washington County Post*. His sub-

[Continued on page 84]

Storm Center

...THE BRAIN

When electroencephalography records the brain potential of epileptic patients prior to and after the use of Kapseals Dilantin Sodium, the oscillograph usually depicts more normal brain waves. Furthermore, seizures diminish in frequency and severity. As a result of this, the patient's general attitude and behavior are favorably influenced and he is permitted to enjoy a more normal life.

A combined report of thirteen clinicians states that in 404 out of 595 epileptic patients, Dilantin Sodium was more effective than other anti-convulsants¹. Its value in patients not responding to other medication has been reported². All in all, Dilantin Sodium (phenytoin sodium), a product of long and systematic research in clinic and laboratory, marks a definite forward step in the management of epilepsy. Complete details upon request.

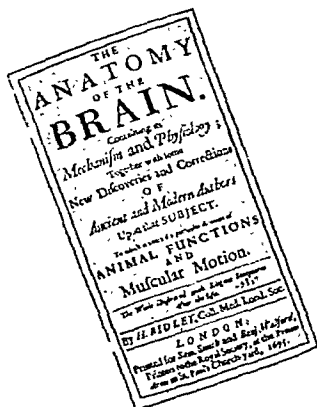
1. Council Report: J.A.M.A., 113: 1734, 1939

2. Merritt, H. H. & Putnam, T. J.: A. J. Psychiat., 96: 1023, 1940

KAPSEALS DILANTIN SODIUM

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[Continued from page 82]

ject was "Practicing Medicine for Pleasure." A movie in technicolor, "The Bull Fight," was shown by Dr. Arthur "Quistador" Penta.

At this meeting Dr. Joseph H. Cornell was elected president of the county society; Dr. William F. Nealon, vice-president; and Dr. Gomer Richards, secretary.

Other officers selected were Dr. Raymond H. Warner, treasurer; Dr. Cornell, delegate to the house of delegates of the State Society, with Dr. James Smith as alternate.

Tioga County

The annual meeting of the county society was held on December 2 at the Green Lantern Inn in Owego. The election of officers followed a dinner served at 6:30. The nominees, all elected, were published November 1.

The speaker at the meeting was Dr. S. B. Blakely, of Binghamton, who spoke on the subject, "Maternal Mortality." A discussion of the subject followed the talk.

Tompkins County

The county society held its annual meeting December 9, at Willard Straight Hall, Ithaca. A steak dinner preceded. Professor Syman P. Wilson of Cornell Law College gave a most interesting talk on "A Lawyer Looks at the Doctors."

The following officers, all from Ithaca, were elected: president, Dr. Dean F. Smiley; vice-president, Dr. Henry W. Ferres; secretary-treasurer, Dr. Willets Wilson; censors, Drs. Richmond Douglass, Arthur B. Berresford, Leo P. Larkin, Henry B. Sutton, Philip J. Robinson; delegate, Dr. Leo P. Larkin; and alternate, Dr. Dean F. Smiley.—*Willets Wilson, M.D., Secretary.*

Ulster County

The county society has told the Board of Supervisors that the doctors are all through handling relief and old-age medical and surgical cases without pay and asked that a committee of the

board meet with a committee of the society to set rates of pay for this service.

The doctors' point of view was presented by Dr. Virgil B. DeWitt, of New Paltz, chairman of a committee named some months ago by Dr. John B. Krom, of Kingston, president of the county society, to study the matter. Other members of the committee were Dr. Alfred M. Feldshuh, of Kerhonkson, Dr. William S. Bush, of Kingston, and Dr. Eugene F. Galvin, of Rosendale.

Dr. DeWitt said that there is no present arrangement for payment of the medical or surgical care for the relief cases, those on old-age pensions, and the blind, while other counties have a standard fee system for paying the doctors. He stated that he was not asking the county to pay the same rates for these cases that are paid by individuals, but he thought that a systematized payment should be made such as is in force in Orange, Nassau, Rockland, Yates, and other counties.

Westchester County

Dr. George C. Adie, in a presidential address on November 18, spoke thus of the functions of a society:

"All through the history of medicine quarrels and disagreements between the various cults and branches of the healing art have existed until now there seems to be no great divergence of opinion in broad principles. It may have been good for the progress of medicine to have these quarrels, but in this day and age and in this community where we all practice the same kind of medicine there is no room for prejudice, jealousies, and factions.

"The local society should function with the idea of making the smaller group cohesive, while the County Society can do much to cement the component parts together in a unified, friendly, and harmonious group. It should promote the welfare of the physician, keep his scientific attitude stimulated, and create a spirit of comradeship."

Deaths of New York State Physicians

Name	Age	Medical School	Date of Death	Residence
Marius L. Abbene	55	N. Y. Hom.	December 9	Brooklyn
Eugene J. Bozsán	51	Budapest	December 4	Manhattan
William A. Curtin	79	Syracuse	December 5	Syracuse
James F. Dougherty	64	Bell.	December 5	Richmond Hill
Walter F. Feely	38	P. & S. N. Y.	December 3	Brooklyn
Samuel Forer	36	L. I. C. Med.	October 11	Bronx
Robert M. Franklin	40	Tennessee	December 5	White Plains
Daniel P. Gillespie	69	Univ. & Bell.	November 28	Bronx
Albert Letherland	61	Queens Canada	December 4	Harrisville
Hampton P. Howell	72	P. & S. N. Y.	December 11	Manhattan and West-hampton Beach
William M. Mehl	64	Buffalo	November 28	Buffalo
Henry F. Owsley	70	P. & S. N. Y.	November 27	Poughkeepsie
E. Burton Probasco	72	P. & S. N. Y.	November 25	Glens Falls
Peter A. Reque	71	Vermont	December 4	Brooklyn
Charles M. Rexford	86	N. Y. Univ.	December 2	Watertown
William L. Sneed	60	Vanderbilt	December 7	Manhattan
T. Hubert Wilson	65	Trinity Toronto	November 30	Buffalo

NEW YORK STATE JOURNAL OF MEDICINE

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VOLUME 42

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NUMBER 2

Editorial

A Call to Service

The rapidly increasing need for medical personnel in the war will be met by the new Procurement and Assignment Service for Physicians, Dentists, and Veterinarians according to the *J.A.M.A.* for December 27, 1941, and January 3, 1942.

(See Medical Preparedness, page 175.)

The P. and A. Service will shortly publish, through the *J.A.M.A.* and in these pages, a tabulation of the physical requirements for physicians applying to any of the federal services.

What's the Idea?

The armed forces need medical men, dentists, and veterinarians at once—lots of them. A pool of physicians must be available from which applicants for commissions might be drawn promptly. The *J.A.M.A.* for the past two issues carried a tear-out sheet which some of you may

have seen. It was an application form for a commission. Some of you may have filled it out and sent it in.

If you have not, here is your second chance. Tear out the sheet on page 121 of this issue, fill it out, send it to Dr. Sam F. Seeley (address on form).

Now

The immediate needs of the Army are for men in the grades of lieutenant and captain. This applies particularly to men under 45. Never mind what other

questionnaires you may have filled out previously. This is urgent and serious business. Do this at once. It may save you endless trouble.

Why?

Because the age limits of Selective Service have been extended, older men will shortly have to register for service with their local draft boards. Medical men who have filled out and returned the questionnaire will already have applied for a commissioned status. They will not have to serve as enlisted men.

Those physicians desiring to refer to the complete plans for handling profes-

sional personnel in war or to inform themselves more fully about the function of Procurement and Assignment Service and the names of committeemen announced for the various corps areas will turn to page 175 for this information.

Let us repeat. If you have not filled out the blank application form in the *J.A.M.A.* for December 27, 1941, fill out the facsimile on page 121 of this Journal.

Turn to Pages 121-122—*At Once*

Read Carefully

The Editors of this JOURNAL have frequently urged the membership of the Society to read the issues carefully.

We urge it again. We know that some do not receive the *J.A.M.A.*; others do not attend their county meetings regularly, still others not at all. All members of the Society receive this JOURNAL. We endeavor to publish and republish important announcements which concern the medical profession in the state.

Because this JOURNAL appears twice a month, the membership is fortunate in that important notices and bulletins can

be brought to its attention at a date in advance of most other publications except the *J.A.M.A.*

Now that we are at war, it becomes more than ever necessary that this JOURNAL be read carefully, especially by those members who do not receive the *J.A.M.A.* Your Editors will endeavor to keep you up to date on all things relating to the profession at war as well as the affairs of your respective localities as reported to us by your county societies. We ask again that you read promptly and carefully.

Correspondence

"War and the Woman Physician"

To the Editor:

I wish to address the Men Physicians of New York State through your column.

It has been my proud privilege to be a member of the House of Delegates in the Medical Society of the State of New York for about a decade.

During this time I have seen much forward-looking legislation transacted. Possibly no one act has commanded my respect more than when the House went unanimously on record as recommending that women physicians be admitted unreservedly to the Medical Reserve Corps of the United States Army and Navy. This was an act of modern gallantry on the part of the men to their sister women physicians. Yes, it was this and a great deal more, for it was a declaration of justice for women that they should have equal rights with men physicians where these rights had been earned.

The fact that this momentous recommendation from the House of Delegates was not ratified by the higher Medical Tribunal in no way dims the splendid act of the Empire State taking its stand for its women physicians, the first of any state to do so. The women physicians of New York State have been heartened and thrilled by your act and extend to you all deep gratitude and appreciation.

Another war is upon us and grim days are ahead. As President of the American Medical Women's Association, I have found that my most important duty has been to find out where the woman physician fits into the picture of World War No. II.

In tracing down all the illusive reasons why women physicians are ineligible to the Medical Reserve Corps, and the hints of necessary legislation to bring this about, I have at last been able to get some basic facts.

They are as follows: (1) Women physicians are eligible to the Medical Reserve Corps of the United States Army. (2) Women physicians are ineligible to the Medical Reserve Corps of the Navy, but this ineligibility could be removed by the Navy if and when they might consider it expedient to admit women. These facts come directly from the headquarters of the Army and Navy.

Acting on this information, the following resolution was duly adopted at the Mid-Year Board Meeting of the Directors of the American Medical Women's Association held at the Women's Medical College of Pennsylvania on Saturday, December 6, 1941:

WHEREAS, There has been no change in respect to military rating for women physicians since the first World War; and in our present state of war preparedness women physicians now find themselves in an anomalous and undignified position as compared with nurses who now have full military rating with all the privileges thereof; and

WHEREAS, During the period between World War No. I and World War No. II, women physicians have taken advantage in ever increasing numbers of their enlarging opportunities for broader professional training, due to the fact that

large medical schools and hospitals are now open to them, they are now admitted to the most important medical societies, are Fellows of the American College of Surgeons and College of Physicians and are holding positions of trust and responsibility on hospital staffs, college boards, and departments of health all over the country; and

WHEREAS, The bulk of our practicing women physicians are in a position economically and socially to qualify for work in Civilian Defense in case of national emergency; and

WHEREAS, There is also a small but very important percentage of practicing women physicians in the proper decades of life, unattached, in good health, well-trained and desirous of seeing active service for the same reasons that their equally well-trained male colleagues are; among these women being experts in the fields of medicine, surgery, anaesthesia, bacteriology and pathology, and in the specialties of neuropsychiatry and of eye, ear, nose, throat, and skin diseases, whose services would be of great value in base hospitals and wherever military nurses are sent; and

WHEREAS, Many of the best of the women physicians in this preferred qualification group, having received no recognition whatever from our government, are accepting positions for professional work in England and we are losing our very best women physicians in this way; and

WHEREAS, Both the Army and the Navy of the United States of America have repeatedly publicized the fact that there is a serious shortage of physicians in the Medical Reserve Corps, the shortage being estimated in the thousands; and

WHEREAS, The Houses of Delegates of the Medical Societies of New York and New Jersey have gone on record as being overwhelmingly in favor of making women physicians eligible for the Medical Reserve Corps, and

WHEREAS, The Medical Reserve Corps Act of the Army makes no sex discrimination whatever, the sole requirement being that applicants be citizens of the United States with the proper professional training; and

WHEREAS, The taxpayers are being called upon to furnish huge sums of money for the building and equipping of hospitals and other buildings for the medical care of the Army and the Navy; and now is the time, while such buildings are in process of erection, to provide suitable quarters for women physicians in all such buildings, base hospitals and other institutions where they may be assigned (lack of proper housing facilities being one of the arguments most commonly advanced as to why women physicians cannot be attached to hospital units); therefore be it

Resolved, That we the undersigned do hereby respectfully and earnestly request that women physicians be admitted to the Medical Reserve Corps of the United States Army upon the same terms as all the rest of its members and with all the privileges accorded thereto; and be it further

Resolved, That a copy of this resolution be forwarded to the President of the United States, to

the Secretary of War and to the Surgeon General of the Army.

Respectfully submitted,

American Medical Women's Association, Inc.,
By its

Officers
Regional Directors
Chairman of Standing Committees
Chairman of Special Committees

The resolution to the Navy is in all respects identical except paragraph 8, concerning the Medical Reserve Corps Act, which was deleted and the following paragraph inserted: "WHEREAS, The Medical Reserve Corps Act of the Army makes no sex discrimination whatever, the sole requirement being that applicants be citizens of the United States with the proper professional training, and the Navy Regulations which, unlike the Army Regulations, restrict service in the Medical Reserve Corps to men, thereby declaring women ineligible, are easily susceptible of amendment by the proper authorities; and" and in the final paragraph the following was deleted "to the Secretary of War and Surgeon General of the Army" and the following inserted "to the Secretary of the Navy and to the Surgeon General of the Navy."

Why are women physicians not admitted to the Medical Reserve Corps of the United States Army, when they are eligible, and at a time when there is an advertised shortage of physicians in the Medical Reserve Corps of between 1,000 and 2,000?

It is because Surgeon General James C. Magee of the United States Army does not think that women should belong. In a recent fundamental talk with General Magee, he stated that this is his conviction and that he feels there are many places in civil life and in Civilian Defense where women physicians' services could be utilized to much better advantage than in the Army. When pressed further I asked him whether a Surgeon General could change his mind if convincing arguments could be brought to the fore? He intimated that this would not be impossible.

Are the women physicians willing to leave this issue which is of vital importance to them on this anomalous basis? No—they are unwilling to do so. They want to find themselves in a dignified position with sufficient rank and authority to do a good job. They want the same pay and privileges as their brother physicians, the same protection in case of sickness or injury and, if called upon to make the supreme sacrifice, to be assured that their dependents will have the same protection. The Army and Navy have protected their women nurses along these lines. Should the women physicians receive less consideration?

Women physicians are told that positions are awaiting them in civil life, home defense, and public health services, where they can fill in the gaps left by men doctors who have gone into the service.

It has been woman's privilege from time immemorial to do the men's home work when they are away fighting, that goes without saying, and women have never shirked it. This, however, does not cover the present case. Most of these home defense jobs are voluntary, and many women can take them on in addition to a practice which makes them self-supporting. But there is a group (much smaller but very important in type) that must be considered which includes the woman who is not established and has no private practice to give her her living expenses. She must depend on a salaried job for maintenance while she is serving her country in time of war. Why should such a woman if she is professionally capable be debarred from taking an important job with proper rank and privilege? Indeed, it may be more appropriate that this unattached able woman should serve than some man who may have to relinquish his private practice and has a wife and children to care for. One hears of these public health positions for women physicians, but it is quite shocking to find how relatively few important public health jobs with proper salaries are held by women.

Again, it is argued that it would not be suitable for women physicians to go forward with the troops into action. This objection could seemingly be met by the common sense and sagacity of the officers assigning such positions. Why send a woman physician out with the troops when she might give invaluable help in a base hospital? I have in mind a number of superbly trained women in such various fields of medicine as contagion, tuberculosis, etc. Would not the American mother prefer one of these experienced skilled women in charge of her son battling for his life in some base hospital to having him in charge of some young recent male graduate with scant clinical training?

And how about our women surgeons, for we are having an increasing number of these? If they are as good as their brother surgeons and as ambitious, will they not want to go forward into action where they will see traumatic surgery and war injuries at first hand? The answer is, that that is just what they are doing. They are serving in England in British uniforms, receiving equal salary, rank, and privilege with the men

physicians of the British Emergency Medical Service of the British Government. And it is a matter of further great interest that they are already filling teaching positions in medical schools and hospitals in London.

Times have changed. We are living in a new era where vital accomplishment, not sex, is the measuring rod. The American man and woman enjoy the greatest personal freedom in the world, and it is our fervent hope that democracy will always prevail in our midst. The woman physician has come through long years of hardship, privation, and self-sacrifice. She must evolve into her final best self where she has a right to make a decision as to how she will expend her energies in the service of her beloved country. Why should she be told that she must do one type of work when she knows she can do another type better? This last shackle of injustice should be removed. Today we are dealing with a new type of war, and woman's job is irretrievably an integral part of it. Let her at least have the advantage of being a free woman before she takes up the burdens that war will bring.

I am therefore appealing to you, the men physicians of New York State who have so magnificently stood by your sister physicians, to write to

Major General James C. Magee,
The Surgeon General, United States Army,
Washington, D. C.

and request him to consider favorably the appointment of women to the Medical Reserve Corps of the Army, and to write to

Admiral Ross McIntire,
The Surgeon General, United States Navy,
Washington, D. C.

and request him to have the restriction removed and women physicians declared eligible to the Medical Reserve Corps of the Navy.

And in making such possible decision please ask them to consider the woman physician of 1942 in relation to World War No. II and not judge her by the standards of privilege which prevailed in 1917.

EMILY DUNNING BARRINGER, M.D., *President,*
American Medical Women's Association



Buy U. S. Defense Bonds and Stamps



ENROLLMENT FORM FOR PROCUREMENT AND
ASSIGNMENT SERVICE FOR PHYSICIANS

Dr. Sam F. Seeley, Executive Officer
Procurement and Assignment Service
New Social Security Building
4th and C Streets, S.W.
Washington, D. C.

Dear Doctor Seeley:

Please enroll my name as a physician ready to give service in the Army or Navy of the United States when needed in the current emergency. I will apply to the Corps Area commander in my area when notified by your office of the desirability of such application.

Signed.....

1. Give your name in full, including your full middle name:.....
.....
2. The date of your birth:.....
3. The place of your birth:.....
4. Are you married or single?.....
5. Have you any children? If so, how many?.....
6. Do you believe yourself to be physically fit and able to meet the physical standards for the Army and Navy Medical Corps?.....
7. Have you filled out previously the questionnaire sent to all physicians by the American Medical Association?.....
8. When and where were you graduated in medicine?.....
.....
9. In what state are you licensed to practice?.....
10. Do you now hold any position which might be considered essential to the maintenance of the civilian medical needs of your community? If so, state these appointments:.....
.....
.....
11. Have you previously applied for entry into the Army or Navy Medical Service? If so, state when, where and with what result (if rejected, state why).....
.....
.....

Signature.....

Date..... Address.....
.....

ENROLLMENT FOR SERVICE IN THE ARMY AND NAVY

[Reprinted from the J.A.M.A. January 10, 1942]

Last week The Journal published an urgent request to all physicians of the United States to fill out the questionnaire published in that issue and mail it at once to Dr. Sam F. Seeley, Executive Officer of the Procurement and Assignment Service, Washington, D. C., indicating their availability to serve the nation in the present emergency. The response to this call to the medical profession to date has been highly gratifying. The following statement to that effect, with additional instructions, has been received from the Directing Board of the Procurement and Assignment Service:

The response of the physicians of the country to the Procurement and Assignment Service request for enrollment of those now ready for immediate service in the army or the navy is highly gratifying. All names are being processed, and those who meet the present demands of the Surgeon Generals will receive application forms and authority to appear for physical examination at an early date. All who are now ready for immediate duty should forward applications to the Procurement and Assignment Service at once. It is not the intention of the Procurement and Assignment Service to register every physician, dentist, and veterinarian at the present time. *Only those available for immediate assignments should register at this time.* The physical requirements of all military, governmental, industrial, and civil agencies will be published in national and state journals immediately. On the basis of this information every physician, dentist, and veterinarian will be able to make a self appraisal of his physical qualifications. Within a few weeks the Procurement and Assignment Service will mail to all individuals a form on which they will be asked to state their preferences for assignment to all agencies of national defense which require medical, dental and veterinary personnel and for service in communities in public health and other civil categories. In this way every physician, dentist, and veterinarian of the country will be able to lend maximum support to the national emergency. In order to meet the expanding needs of the military services, every physician immediately available for duty should mail his application blank to the Procurement and Assignment Service at once. All others will be given an opportunity to volunteer in the near future.

Frank H. Lahey, M.D.,
Chairman.
James E. Paullin, M.D.
Harvey B. Stone, M.D.
Harold S. Diehl, M.D.

C. Willard Camalier,
D.D.S.
Sam F. Seeley, Major,
M.C., U. S. Army,
Executive Officer.

PRESENT STATUS OF THERAPEUTIC REGIONAL ANALGESIA

E. A. ROVENSTINE, M.D., and H. M. WERTHEIM, M.D., F.A.C.S., New York City

THE control of pain is an important prerogative of the physician. This obligation has been recognized by the medical profession and demanded by the laity. Surgical anesthesia, which had its origin during the middle of the nineteenth century, was an outgrowth of this idea. It was developed to exempt the bodily pain associated with surgical procedures. Regional analgesia was employed for similar purposes and saw its beginning during the latter part of the last century. The conquest of intractable pain, especially that resulting from chronically diseased tissues, is a much broader field than surgical anesthesia. It is of paramount importance to the patient, since the prevailing practices toward efforts to control nonsurgical pain depends largely upon the use of narcotics that depress metabolic function and eventually lead to addiction.

The employment of regional analgesia has kept pace with refinements in pain therapy. Unfortunately, its advantages have been appreciated by a limited group. The lack of application and enthusiasm is readily explained. First, it is due to the failure of all but a few to master the various technic of regional blocks and, second, it is because of promiscuous attempts at nerve block, often performed without accurate segmental localization. Moreover, with few exceptions, therapeutic nerve block has been given the task of accomplishing results when other methods for the relief of pain have failed or were expected to result in drug addiction. Under these circumstances—that is, a scarcity of those trained to practice therapeutic nerve blocking and a group of patients presenting the most difficult problems for pain relief—it is to be expected that the end results will still leave much to be desired.

It is readily admitted that there is no logical plea for relieving pain by nerve block if other therapeutic efforts are sufficient, save that of continuous use of hypnotics or opiates. Patients are subjects for therapeutic nerve blocks only after judicious medical treatment has failed to relieve pain or when surgical transection of sensory pathways is considered a grave hazard. It should be realized, how-

ever, that in the group for whom surgery is contemplated there may be a considerable number who should be given the advantage of less radical intervention by therapeutic nerve block, since operation may always be performed.

There is a logical plea for a more generous regard of the usefulness of nerve blocking. Failures with a few or even many patients who have not been helped by other treatment is no reason to condemn a procedure that is frequently successful. Likewise, a nerve block that obviates a dangerous neurosurgical operation for even a small percentage of patients is valuable. Such statements are made advisedly, since in competent hands nerve blocking does not add to the patient's discomfort, except temporarily in some cases during the manipulation, and is infrequently attended with untoward reactions of consequence.

There have been a number of therapeutic nerve blocks recently brought nearer perfection and many more have been newly introduced. It would be presumptuous to say that all these therapeutic adjustments should assume a definite place in the treatment of pain, for experience with them has neither been extensive nor has it stood the test of uniformly successful results. Sufficient data have been accumulated, however, to insist that therapeutic nerve blocking merits further trial and more widespread application. It is not the purpose of this discussion to recommend or describe the many nerve blocks employed by those particularly interested in this practice. Neither would it be of significant value to enumerate those that have been enthusiastically reported in the medical literature. It should suffice to point out certain nerve blocks that have been found from experience to have definite value. A detailed anatomic or technical discussion of these manipulations will not be attempted.

Nerve Blocks of the Head and Neck

Regional analgesic blocks for the relief of pain of the head and neck are among those most frequently employed. The efficacy of blocks for the relief of trigeminal neuralgia is unquestioned. If the diagnosis is without error and if the analgesic solutions are properly placed, pain relief will always be obtained. The duration of analgesia is dependent upon

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 30, 1941

From the Division of Surgery, Department of Anesthesia, New York University College of Medicine, and the Third Surgical Division, Bellevue Hospital.

several factors. It is known that failures decrease and that the duration of effective results increases with the experience of the operator. Before neurolytic solutions are injected at the designated site an accurate diagnosis should be made. This is not always simple, since many pathologic conditions produce pain in the face. In trigeminal neuralgia the mandibular division is most often the pathway of pain; then, the maxillary; last, the ophthalmic. Nerve block should be performed for the nerve supply of the painful distribution only. When all the divisions are involved the gasserian ganglion should be injected.

Neuralgia of the greater occipital nerve is generally associated with arteriosclerosis. It may be explained on that basis by the direct pressure from a tortuous hardened vertebral artery on the first cervical nerve, or the etiology may be unknown. The pain is continuous and of a burning character, localized to the distribution of the posterior primary division of the second cervical nerve. Relief is readily obtained by blocking this nerve as it winds around the lateral mass of the second cervical vertebra. Procaine anesthesia is of short duration, but an oil-anesthetic or an alcohol block will be effective for months. The pain may return after a time, as it will when any peripheral sensory nerve is injected, since regeneration is inevitable.

The superior laryngeal branch of the vagus is the sensory nerve supply to the larynx. A small amount of analgesic solution properly deposited to block this nerve may be used for the control of intractable pain from carcinoma or tuberculosis of the larynx. Such a nerve block is desirable, for in these conditions, when pain is abolished, patients can ingest food and this may improve the general condition. In those cases where the pain is not localized but has spread to the pharynx, fauces, and soft palate—structures not supplied by the superior laryngeal nerve—the relief obtained may often be gratifying. The reported failures with the manipulation must be explained by a failure to bring the analgesic fluid in intimate contact with the nerve by placing the needle point in the exact plane of tissue in which the nerve lies.

Cervical plexus neuralgia is a clinical entity often confused with brachial plexus neuralgia. True cervical plexus neuralgia is characterized by superficial pain limited to a capelike distribution from the chin-ear line to the anterior thorax as far as the level of the second rib, the upper third of the arm, and the back

to the level of the scapula. The disturbance is usually limited to a single segment and is frequently caused by osteoarthritis. Blocking of the segment involved will relieve the pain. Alcohol may be used without fear of secondary motor paralysis if a single nerve is blocked.

Brachial plexus neuralgia may result from spasm of the scalenus anticus, osteoarthritis of the cervical or upper thoracic vertebra, and many other conditions. These conditions must be carefully differentiated if nerve block is to be successful. If individual nerve segments are involved and the pain can be localized, procaine-alcohol nerve block may be used. It is strongly advised that alcohol injections be limited to a single nerve at any one time to avoid serious disturbance with motor function. Muscle groups have several segmental nerve supplies and, if motor disturbance results from anesthetic section of one segment, it will not be complete. Subsequent injections may be limited then to preserve motor function.

Shoulder pain is common. The so-called rheumatic conditions, such as periartthritis or the more common subdeltoid bursitis, account for the majority of diagnoses. In the latter condition particularly, pain relief may often be obtained by blocking the suprascapular nerve at the lesser scapular notch with procaine or oil-procaine solutions.¹ The sensory components of this nerve form a vital pathway for pain fibers from the scapulohumeral and acromioclavicular joints and periarterial structures about the shoulder joint. Since the articular and periarticular branches leave the nerve in the infraspinatus and supraspinatus fossae it is not possible to interrupt them by brachial plexus block. The block is more useful in acute than in chronic conditions.

Paravertebral Nerve Blocks

Thoracic paravertebral nerve blocking, segmental and sympathetic, has numerous specific indications. The segmental nerves are blocked for intercostal neuralgia with good results. The pain associated with fracture of the ribs may be relieved by similar injections which include the nerve supply to the fractured bones.² This procedure is recommended as prophylaxis against respiratory complications as well as for pain relief. After analgesia is established, the patient will cooperate in clearing the secretions from the lower part of his respiratory tract by coughing and, thereby, minimize the incidence of atelectasis and subsequent pneumonia. The paravertebral approach is superior and more easily accom-

plished than attempts to interrupt each intercostal nerve.

Paravertebral nerve block has been used to alleviate pain associated with herpes zoster, but the results are not gratifying since the pathology is proximal to the site of injection and, therefore, the pathway is not interrupted. However, patients whose pain is initiated or exaggerated by skin stimulation will be greatly relieved, and these should have routinely an attempt to secure relief with procaine. If relief of pain is complete, then alcohol may be injected.

Another frequent use for thoracic paravertebral nerve block is for the control of pain following operations in the upper part of the abdomen or on the thorax. Such nerve blocks have a definite field of usefulness in surgical anesthesia and, when employed for this purpose, may be performed to include the control of postoperative pain.

Blocking the thoracic sympathetic ganglia has wide application in the therapy of pain. Interruption of sympathetic pathways at the stellate ganglion is used for the cure of hyperhidrosis of the upper extremity. The block is also indicated in conjunction with thoracic sympathetic blocks for the relief of causalgia, sympatheticalgia of the face, and similar painful conditions in which the autonomic nervous system may be involved. The posterior approach, contacting the body, then neck, of the first rib, has greatly minimized technical complications with stellate ganglion block and simplified the procedure.

The relief of pain arising from the various forms of cardio-aortic disease by alcohol injection of the upper thoracic sympathetic ganglia is established by the large number of successful cases reported. White has stated recently that experimental and clinical evidence point definitely to the superiority of alcohol injection over cervical sympathectomy, since the latter procedures fail to interrupt the direct thoracic cardiac nerves.³ Our results with nerve block substantiate his opinion. It is generally conceded that alcohol injections should not be the early or exclusive treatment for cardiac pain. It should be applied only when medical treatment has failed to bring adequate relief of pain. The age of the patient, his physical condition, or the severity or type of his heart disease is of little consideration in selecting patients for therapeutic nerve block. Severe angina and the failure of other nonsurgical treatments indicate alcohol injection. Individual preference, determined by experience, governs the extent

of the block, but all agree that the four upper ganglia should be included. The practice of completing the injections of different ganglia at intervals of twenty-four hours has been utilized here with success. The treatment should always be directed toward the side with severest pain, and bilateral injections should never be attempted without an interval of a week or more. If, following a successful block, attacks of paroxysmal pain recur, the block may be repeated. One such case here is that of an aged woman who has been injected on three occasions at almost exactly six-month intervals. The last two treatments were at her own request and gave complete satisfaction. Two other patients had the block performed as an emergency measure to relieve agonizing pain that had been continuous for seventy-two and sixty hours, respectively, without effective relief from what was considered dangerous amounts of morphine.

Excruciating pain may result from an aneurysm of the arch or descending aorta when the structures in the thorax are compressed or the bones eroded. Paravertebral injections of procaine followed by alcohol offer means for controlling or alleviating this distressing pain in a majority of patients. It is to be preferred to surgical intervention, since the large majority are poor surgical risks. It is advised that the ganglia corresponding to the area of segmental skin hyperesthesia, as well as the upper thoracic, be injected. The extent of each block will need to be determined by the condition of the patient and the effects from the preliminary procaine injections.

Paravertebral lumbar nerve block has wide application in the therapy of pain. Interruption of lumbar sympathetic pathways are indicated for painful conditions in the lower extremities which are similar to those already enumerated for the thoracic sympathetics. Of particular interest is the recently introduced use of lumbar sympathetic ganglia injections for the relief of pain accompanying phlebitis of the lower extremities. This manipulation has been uniformly successful not only in relieving pain but in arresting the whole process and bringing about a return to normal. It is the rule following such a nerve block to have immediate pain relief and a rapid decrease in the swelling and temperature. If procaine is used alone, the block will have to be repeated one or more times. The use of alcohol more frequently gives a satisfactory therapeutic result after a single injection. The application of lumbar sympathetic block has regularly been followed by such ef-

fective relief of phlebitis that its definite indication whenever the condition develops cannot be overemphasized. The early acute cases invariably respond well, and for those of longer duration substantial benefit or complete relief is the rule.

Lumbar and sacral segmental nerves may be judiciously blocked for many painful conditions. Meralgia paraesthetica, caused by a disturbance of the external cutaneous nerve of the thigh, may be relieved by injecting the second and third lumbar nerves. Neurodocitis involving individual lumbar nerve segments may be completely relieved by blocking the intervertebral segment close to the exit of the nerve at the intervertebral foramen.

"Sciatica" has been attacked by various nerve-blocking procedures, and satisfactory results have been reported following many of the methods employed. The nerve involvement established by accurate diagnosis may be improved, and frequently entirely relieved, by accurately placed analgesic solutions. From the experience here, the method of choice is a combination procaine injection into the body of the piriformis muscle and a paravertebral injection of procaine or an oil-anesthetic solution. Alcohol is not advised. It is usually necessary to repeat the nerve block to secure adequate relief. The piriformis is injected since it has a close relationship to the sciatic nerve, and there is the strong possibility that spasm of this muscle frequently prolongs the symptom complex.

Coccygodynia, often idiopathic in origin, has its pathways through the posterior primary divisions of the third, fourth, and fifth sacral nerves. These nerves unite to form the coccygeal nerve, which may be injected to relieve pain. This injection is also of some value in the treatment of pruritis ani.

Nerve Blocks for Carcinoma Pain

A large group of patients who may be frequently benefited by regional analgesia is that with inoperable carcinoma. These individuals rarely escape severe pain during therapy or the progression of the disease. The pain is most difficult to localize and to treat with nerve blocking. It is of utmost importance that some type of physiologic nerve section be used, for without recourse to these procedures there is often little to be done other than to use morphine in progressively increasing and ineffectual doses. If the painful area and its ramifications are carefully determined, the nerve supply may often be interrupted by

procaine and alcohol injections. Lesions about the face and neck that do not involve the deeper structures are often associated with the cervical or the trigeminal nerves and are available for blocking. Thoracic involvement is frequently relieved by paravertebral injections. Malignancies of the abdominal and pelvic viscera offer the greatest difficulties, since the pain pathways are not easily defined and are regularly extensive. No more can be advised than that the anesthetist study every case carefully from the standpoint of the position of the lesion and the cutaneous sensory nerve involvement in an attempt to select the site of injection applicable. The peripheral nerves involved may often be paralyzed, with gratifying pain relief, and epidural injections are frequently useful. It is surely true that regional nerve block should be used for these patients prior to the more drastic intrathecal alcohol or the more serious chordotomy.

Summary

A problem of magnitude in the practice of every physician is the control of pain. Many patients whose primary or sole reason for seeking medical aid is the relief of pain go without benefit from medical therapy. Not a few have added to their disorder—addiction to morphine or other drugs. Therapeutic adjustments by physical and surgical means have many failures and, not infrequently, the latter may result in added disability or may seriously endanger life. Regional anesthesia has a place in the therapy of pain. It is no panacea and is not a method of wide application. It has, however, given gratifying results in certain clinics where it has been carefully evaluated and applied for a number of patients who had experienced unsatisfactory results from other methods of pain relief. It has the advantage of relative safety and noninterference with other forms of treatment and is not often followed by serious complications when properly executed. The practice has not been accorded the consideration it merits or the careful study it deserves.

A number of painful afflictions that may be attacked by nerve blocking in conjunction with other therapy or before more radical therapy is attempted have been enumerated and briefly discussed. In our experience the percentage of patients enjoying partial or complete pain relief from such afflictions is sufficiently high to merit the recommendation that such therapeutic nerve blocks be continued.

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Discussion

Dr. Paul W. Searles, *Buffalo, New York*—The method of abolishing pain by nerve block logically falls in the anesthetist's field. From my experience the internist and surgeon are glad to turn over these patients to a man who makes it his specialty to know where and how to render a nerve anesthetic. I know that abolishing pain in those patients who have usually run the gauntlet of treatment before nerve block is resorted to are extremely grateful for any relief obtained.

Several interesting cases have come to my attention during the past year. I performed a lumbar sympathetic block on a boy who had developed a painful foot several weeks after sustaining a fractured ankle. He was unable to walk on his foot. After the injection he had complete relief of pain and was able to walk on his foot an hour later.

In another patient a brachial plexus block was performed because of severe pain in the right supraclavicular region and shoulder. Pain was also present on extreme twisting and bending of head to the right, resembling a torticollis. The condition had been treated by x-ray, heat, and head traction for one month before I saw him. On completion of the brachial plexus block, the patient was relieved of pain and was able to straighten his neck without difficulty. The only complication was a pneumothorax on the right side. I doubt that this complication was due to the needle being inserted in the apex of the pleura. An x-ray showed an old inflammatory process there, and numerous evidences of scar tissue that may have been the original cause

of the pain. Anesthesia may have permitted him to break these adhesions and also tear a small hole in his pleura. The pneumothorax cleared up and patient has had no recurrence.

I have performed several stellate ganglion blocks to determine the feasibility of doing a sympathectomy for Raynaud's disease. One interesting finding was that a brachial plexus block gave us the same changes in skin temperatures as was obtained in the stellate ganglion block.

Obstinate cases of pain in the back have been a great source of interest to me. I have found that these cases usually involve more than one nerve and frequently do not clear up on paravertebral injections. Frequently, these patients exhibit a faulty posture. Good results are obtained by correction of posture. The results of these experiments have been gratifying.

I have done two lumbar sympathetic blocks for phlebitis. In both cases the phlebitis cleared up. In this, I am not certain that the other forms of therapy used were not also factors in the cure of the phlebitis.

Dr. Rovenstine (*Concluding Remarks*)—I want to thank Dr. Searle for his discussion and the recital of some of his personal experiences with therapeutic nerve blocking. The mention of nerve blocks for diagnosis impels me to say that in diagnosis and prognosis nerve blocking has attained a degree of precision that commands its use in numerous conditions. For example, there are the carotid sinus block and the various blocks used to differentiate peripheral vascular diseases and the anesthetic blocks that are accomplished before operation for hypertension are undertaken. Many others could be cited as accurate diagnostic and prognostic procedures. The ramifications of anesthetic nerve blocking have extended to more than surgical anesthesia and therapeutic analgesia.

MISSISSIPPI VALLEY MEDICAL SOCIETY 1942 ESSAY CONTEST

The Mississippi Valley Medical Society offers annually a cash prize of \$100, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics) and of practical value to the general practitioner of medicine. Certificates of merit may also be granted to the physicians whose essays are rated second and third best. Contestants must be members of the American Medical Association who are residents of the United States.

The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society at Quincy, Illinois, September 30 and October 1 and 2, 1942,

the Society reserving the exclusive right to first publish the essay in its official publication—the *Mississippi Valley Medical Journal* (incorporating the *Radiologic Review*).

All contributions shall not exceed 5,000 words, be typewritten in English in manuscript form, be submitted in five copies, and must be received not later than May 1, 1942. The winning essay of the 1941 contest appears in the January, 1942, issue of the *Mississippi Valley Medical Journal* (Quincy, Illinois). Further details may be secured from Harold Swanberg, M.D., secretary, Mississippi Valley Medical Society, 209-224 W.C.U. Building, Quincy, Illinois.

OPHTHALMOSCOPIC FINDINGS VERSUS SINUSITIS

ARTHUR J. BEDELL, M.D., D.Sc., LL.D., Albany, New York

THE object of this paper is to stimulate interest in a large group of patients who are either told, or believe, they have "sinus" when in reality they are suffering from something entirely different.

"Sinus" has become a household word. Any pain or discomfort referable to the head is called "sinus" by many laymen and physicians. The dangers inherent in such a lack of discrimination should be apparent to everyone.

That the sinuses may be infected is admitted, that eye diseases such as optic neuritis may result from sinusitis is conceded, and that the anatomic relationships of optic nerves and sinuses are intimate is well recognized. In 1911 Onodi demonstrated his marvelous collection of sinus dissections and showed me the various associations of optic nerves, ethmoids, and sphenoids.

It must be understood that a complete eye examination includes a careful ophthalmoscopic investigation, visual field tests, the determination of ocular tension, and central visual acuity.

The general practitioner should use the ophthalmoscope as part of his routine physical inspection. If any fundus abnormality is discovered then the patient can be referred to a competent ophthalmologist.

In the presentation of a few examples where the ophthalmoscopic findings enabled the physician to make the diagnosis, the reader is reminded that this is a clinical argument for a comprehensive study of the fundus pathology and must not be considered as an objection to needed sinus surgery.

Glaucoma

All physicians have been taught that increased ocular tension is glaucoma. They have been told also that the combination of severe pain about the eyes or head accompanied by a congested eyeball, a steamy cornea, a dilated pupil, and dimness of vision is pathognomonic of glaucoma, and yet time and time again I have seen typical glaucoma mistakenly treated for sinus or influenza simply because eye signs were not recognized in a patient with frontal pain, watery nose, fever, and gastrointestinal upset.

Some time ago a man was examined who gave a history of recurring nasal infections and repeated antrum, sphenoid, and ethmoid operations. He stated that his vision had been uncertain and steadily failing for several months, and yet at no time had his ocular tension been taken. He had vision of 20/30 in his right eye with a central scotoma. The vision in his left eye was 20/100 with a large, marked sector field defect. Each fundus showed a typical glaucomatous excavation of the optic nerve. The Schiotz tension in the right eye was 30.5; in the left eye, 49.

This case is presented because there are a few who believe that sinus infection is the cause of glaucoma and also to show specifically how an advanced glaucoma may escape detection when attention is focused exclusively on the sinus infections.

A 63-year-old woman had severe head pain and nausea. The vision of the right eye was 12/200; the Schiotz tension was 25.5. There was a large glaucomatous cup. The vision of the left eye was 2/200. The pupil was 6 mm. stationary. The cornea was steamy; the Schiotz tension was 90. Her field of vision was greatly contracted. There was marked iris atrophy in each eye. Fortunately, the condition was promptly diagnosed by her physician as glaucoma.

Another case of glaucoma was that of a 46-year-old woman. Her corrected vision was 20/40 in each eye. The Schiotz tension in the right was 22; in the left, 95. The glaucomatous excavation was absent in the right eye and only moderately developed in the left. The field of vision was slightly contracted in the right eye, and in the left it was reduced to less than 10 degrees in its greatest diameter.

Following a combined trephine operation, the tension was stabilized and her central visual acuity was maintained at 20/40.

Hundreds of cases of glaucoma could be cited, but these are enough to focus attention on the imperative need of early diagnosis.

Papilledema (Brain Tumor)

The loss of vision is tragic but is not comparable to the loss of life which results when an expanding brain lesion with the intra-ocular manifestation of increased intracranial pressure is not recognized and the patient is

compelled to endure prolonged medication, sinus operations, and other nonproductive treatments because the eyes were not examined and the signs of danger not appreciated.

A 46-year-old woman gave a long history of invalidism that started with laceration, influenza, and sinus infection. Since childhood she had had fainting spells, in 1932 she had difficulty in swallowing, and in 1935 she was on a liquid diet for a long time. The diagnosis was a neurosis. Four years before she had had a hysterectomy for a tumor that was reported nonmalignant. Subsequently, the diagnosis of an endocrine dyscrasia was made. Two years later she complained of some ocular discomfort, increasing vertigo, dizziness, fainting spells, and deep sinus pain.

A year ago she had a recurrence of the nasal disturbance with more severe headache. At that time her physician found that her Wassermann was negative. She had some difficulty in walking, which was ascribed to her neurosis. Her fainting spells increased in severity and frequency, and she was brought to me for examination.

The vision in her right eye was 20/40. The pupil was 3 mm. regular and active. The media were clear. There was complete obscuration of all disk detail, with an immense choked disk and a thick, heavy crown of blood surrounding it. There were many retinal hemorrhages. The vision in the left eye was 20/200. The pupil was 3 mm. regular and active. The media were clear. The papilledema was extreme. There was bilateral, horizontal nystagmus.

It was impossible to chart her fields for she was extremely ill and fainted even when the fundus photographs were taken. A diagnosis of brain tumor was made immediately.

An enormous, solid astrocytoma of the fourth ventricle, which extended to the aqueduct of Sylvius anteriorly and downward into the medulla, was removed. Unfortunately, she did not stand the shock and expired. The postmortem examination proved that the tumor had been completely removed.

A 25-year-old man said that he was being treated for a headache that his doctor ascribed to sinus and influenza. When I first saw him he had an immense papilledema in each eye with exudate and several disk and retinal hemorrhages. He was told that he had a brain tumor, although he had no ataxia, no Romberg and no adiadokocinesis. At operation, a hemangioblastoma that involved one-half of the left hemisphere of the cerebellum

and the anterior half of the vermis was removed.

The right disk then became flat with a faint overlying veil. The retinal vessels were of normal size and distribution and the vision was 20/20.

The vision of the left eye was 20/70. The disk was pale but clearly outlined. The retinal arteries were small, and the veins were reduced in caliber. In the macular region there was a definite, circular loss of the superficial layers of the retina with a dark pigmented outer ring; a secondary optic atrophy with macular degeneration.

The first case illustrates the necessity for a careful eye examination in all chronic cases, even when the eyes seem uninvolved. The second emphasizes the importance of an ophthalmoscopic study in every patient with a headache.

Optic Neuritis

Optic neuritis is always associated with a decrease in visual acuity and a demonstrable fundus change. Some patients have been treated for sinus when syphilis was the cause, as in the following case.

Several years after primary infection, a 42-year-old man complained of poor vision in the right eye, which on examination was found to be 20/70, Jaeger 16. The pupil was 3 mm. regular and active. The media were clear. There was marked swelling of the disk with loss of outline and several concentric folds in the contiguous retina. The left eye was negative. Investigation proved that he had a 4 plus Wassermann reaction. Under appropriate treatment the disk swelling promptly disappeared and the vision was restored to 20/20.

Hereditary Optic Atrophy (Leber's Disease)

Whenever a patient with a chronic disease comes under the case of some general physicians, and even some nose specialists, sinus is the wishful thinking field for ploughing and harrowing in the hope that something will eventuate and the sufferer improve. This is well illustrated by a group of curious cases collected under the heading of "hereditary optic atrophy," where the sudden, alarming loss of vision is an emergency that must be met in a calm manner not in a stampede-like state of mental confusion.

A 20-year-old boy who had seen many physicians in the larger communities in the East; who had been in several hospitals; and who had

had many lumbar punctures, several x-rays of his head, numerous metabolism tests, sinus explorations, and thyroid administrations finally came to me for an opinion. He had vision in the right eye of 1/200, a large central scotoma, and a contracted peripheral visual field. The pupil was 4 mm. regular and active, the media were clear, and the disk was pale but distinctly outlined. The retinal arteries and veins were of normal size and distribution. The macula was clear. The left eye was the same in detail. A careful analysis of the fundus appearance and the clinical findings was enough to establish this as an example of hereditary optic atrophy.

Some authors state that in Leber's disease they have found changes in the sellar region and sphenoid. This has not been confirmed in the cases I have studied.

Retrobulbar Neuritis

Sinusitis and serious eye disease come close together in retrobulbar neuritis with its early loss of vision, little change in the fundus, a scotoma, indefinite fleeting headache, and pain in the eyes when touched or moved. The difficulties of determining the etiology are always great and in many atypical cases almost overwhelming. Too often, retrobulbar neuritis is ascribed to the nasal sinuses because epinephrine applied to the nasal mucous membrane gives immediate relief with restoration of vision, but this is only ephemeral and the symptoms recur with greater severity until, finally, the diagnosis of multiple sclerosis is established.

A 25-year-old woman complained of a sudden blur in her right eye. At the time of examination the central visual acuity was 20/200. The pupil was 4 mm. regular and active. The media were clear and the disk was distinct but faintly congested. She had a small central scotoma. In a few months the vision was restored to 20/20. At that time the left eye was unaffected.

Six years later she was seen again. In the interim she had had repeated nose treatments. The vision of the right eye was 20/40 with combined hyperopic astigmatism correction 20/20. The temporal side of the disk was distinctly pale. She had a rotatory nystagmus and neurologic symptoms, which supported the diagnosis of multiple sclerosis. When last examined, 17 years after the onset, the vision of the right eye was, with correction, 20/30 and Jaeger 6. The nystagmus was unchanged, the disk pallor was not altered, and she had the same small central scotoma.

The left eye, which before that time had been clear, showed a slight pallor of the disk, and the vision was reduced to 20/40. It was practically impossible for her to walk, and the signs of multiple sclerosis were more pronounced.

The literature is replete with histories of this kind—where the patient has been "cured" by the treatment of a coincident nasal condition. A prolonged period of observation is often necessary to determine the permanency of the "cure."

Amblyopia

The amblyopias caused by the toxins of alcohol, tobacco, lead, diabetes, and various drugs deserve attention.

A 59-year-old man complained of difficulty in seeing. He had had diabetes for two years. The right eye vision was 20/70. The disk was clearly and sharply outlined with a perceptible pallor about the macular area. The fundus vessels were of normal size and distribution. The vision of the left eye was 20/200. Otherwise, it was the same as the right. He had a bilateral central scotoma.

After three months of restricted diet and insulin the central scotomas disappeared and his vision was restored to normal. It was a case of diabetic retrobulbar neuritis which might have been incorrectly diagnosed if a complete eye examination had not been made.

A 65-year-old man complained of poor sight. The vision of his right eye was 20/200. The pupil was 3 mm.; the disk was normal. The retinal vessels were negative and the macula clear. The left eye was the same as the right.

He used tobacco excessively. For some unknown reason he was on a diet from which butter and milk had been excluded. He had a marked deviation of the septum and, by transillumination, a cloudy frontal sinus. His nose was not treated. The use of tobacco was interdicted, his diet was regulated, and his recovery was prompt.

Arteriosclerosis

Arteriosclerotic changes of the cerebral vessels may inaugurate symptoms common to a variety of lesions. Sometimes they exactly simulate sinusitis of the vacuum type, and operations are performed before making the extensive investigations necessary to disclose the true nature of the cause.

A 64-year-old woman said she had been treated for a sinusitis because of a progressive loss of vision in her right eye. When I first saw her, the right eye vision was 20/20, cor-

rected to 20/20. The pupil was 3 mm. regular and active. There were a few isolated opacities in the lens cortex. The disk was of normal color, clearly and sharply outlined. The retinal vessels showed no remarkable alterations, but there were a great many small yellowish white exudate dots, especially in the lower temporal quadrant below the macula.

The left eye vision was 20/40, corrected to 20/20. The pupil was 3 mm. regular and active. There were a few isolated lens opacities. The disk was clearly outlined with a plaque of pigment on its inferior border; the retinal vessels were of normal size and distribution. There were two small areas of retinal exudate, one along the superior temporal artery and the other near the inferior temporal branch. Her blood pressure was 120/80. There were no physical signs of sinus involvement.

Three months later the fundus of the right eye was greatly altered. The macular region was surrounded by broad, dark red hemorrhages in the external layers of the retina. There were innumerable, fine yellow dots of exudate, similar to those seen on the previous visit. Those in the lower portion were thicker. The macula was pink, and from the side toward the disk there were several radiating linear yellow exudates, a partial macular star. In the left eye there had been no change since the first examination.

Drug Poisoning

Some of you may remember that a few years ago a depilatory containing thallium made many people blind. Although the drug has been officially taken off the market, it is still a potential source of retrobulbar neuritis.

A young lady came in complaining of poor vision that had gradually failed until it was 1/200 in the right eye and 2/200 in the left. She had large central scotomas. Each fundus showed a definite swelling of the nasal half of the disk with full retinal veins.

The complete physical examination failed to disclose the cause of her trouble, and only after long questioning by her family physician did she admit that she had been using a thallium depilatory.

The reason this case is of interest is because the otolaryngologist reported:

"The mucous membrane of the left antrum was injected, and some mucopurulent discharge was coming from the region of the ethmoids on this side. If the patient did not have any eye trouble, I would not advise any operation, but in view of the impairment of vision I feel that it would be wise to open the

ethmoids, particularly on the left side, and that a radical antrum operation on that side should also be done."

His report was rendered after an excellent roentgenologic examination demonstrated that the nasal accessory sinuses were clear and that there was no evidence of sclerosis of the bony walls of the sinuses or thickening of the mucosa. It is difficult to decide definitely the etiologic factor in many cases of retrobulbar neuritis.

If this citation seems too harsh to the trained otolaryngologist, let him take comfort in the knowledge that he is not guilty. If to some, usually the ones who need instructions most and who neither attend medical meetings nor read recognized medical journals, the criticism is too pointed, they are asked to review their cases, check over the final diagnoses, and resolve that in the future some unfortunates may be helped earlier and more effectively with less operative damage and lowered mortality, for sinus surgery is not without its tragic fatalities.

Optic Neuritis (Sinus)

The last case is that of a young man who was seen because the vision was reduced to 4/200 in the right eye and 1/200 in the left. There was definite swelling and engorgement of the disks, an elevation of about 1D, and marked field defects.

His sphenoid sinuses were opened, his vision was restored, and the disks became flat. When he was last seen his vision was normal and the fields of vision showed no defects. Each disk was clear, although the temporal half was pale. This seems to be a case where recovery was complete and has remained so for several years. But even yet we cannot be certain that multiple sclerosis will not develop eventually.

Summary

Some of the more common ophthalmoscopic changes have been presented in the hope that from the free and frank discussion by the proponents of early sinus operation the value of the procedures here advised may become more universally adopted.

Glaucoma must be excluded before any nose operation is undertaken.

Papilledema, choked disk, is comparatively rare in sinus infections, so that the more common causes, including brain tumor, must be excluded before a hypothetical sinusitis is treated.

Optic neuritis or retrobulbar neuritis may

come from sinus infection, but they are more often the result of a constitutional disease that must be eliminated before nose treatment is started.

Hereditary optic atrophy, an abiotrophy, is not influenced by nose or sinus surgery.

The symptoms of multiple sclerosis and toxic amblyopia must be understood by the diagnostician and due value placed upon them before the sinuses are operated upon.

Arteriosclerosis may simulate sinusitis.

Optic neuritis can be cured by sinus surgery only when the sinuses are infected and are the activating cause of the eye disease.

Conclusion

Four groups are concerned with the sinus problem: first, the laymen, who should be told they are incompetent to make a diagnosis of sinus infection; second, the specialists who treat eye, ear, nose, or throat must refuse to become narrow in their outlook; third, alert family physicians who should welcome and appreciate instruction along the lines here recorded; and, finally, unscrupulous drug advertisers who should not be permitted to prey upon the unsuspecting public, for the use of nostrums is often responsible for serious delay in the institution of appropriate treatment.

Discussion

Dr. David F. Gillette, *Syracuse, New York*—Dr. Bedell's paper, unfortunately, will not reach the needy. They either will not or cannot make use of the opportunities these discussions offer.

This apathy should be met in a two-way educational program: (1) the awakening of these practitioners to their responsibilities to their public, and (2) the enlightenment of the layman in his essential medical matters. The success of the latter will force the former.

The former should start with the medical student and continue to the practitioner through the state and local medical societies and review courses offered by many medical schools. The latter should be conducted by the profession, beginning at the consultation and continuing through programs endorsed by our medical societies.

There are many personally important medical problems that the layman should know, concerning which he is now ignorant and confused. For example, we know that the terms "ophthalmologist," "oculist," "optician," and "optometrist" are confusing to him, for he knows each as

"doctor." The term "eye physician" substituted for "eye specialist" in the literature of the State Commission for the Blind is self-explanatory and sufficient.

In this day of ether waves we must also become air-minded, for the atmosphere is crowded with "medical shows" deluxe, offering lucrative prizes along with alluring pleas to use "medically endorsed" cigarettes for irritated throats, as well as drops, pills, powders, vapors, and salves for the quick relief of headache, head cold, sore, tired eyes, and sinus disease.

A way to help combat this and gain the public confidence is for the physician to make a correct diagnosis as early as is possible and then prescribe. It is not a sign of ignorance nor is it a sin to use the necessary aids to this end.

Those chiefly concerned with an early correct diagnosis are the patient, his physician and, in this case, his eye specialist, who should be a competent eye physician rather than a refractionist.

There are those who will continue repeatedly to sell glasses to a patient so long as he can see to pay and, occasionally, when he can do only the latter. These men are the greatest offenders, for many cases of chronic, simple, even absolute glaucoma and other grave ocular diseases are carried along until the second eye is hopelessly involved.

The two-way educational program should help to remedy and, in the future, prevent these faults.

Dr. Bedell's cases of glaucoma are uncommon only in their mistaken early diagnosis. We, too frequently, see them diagnosed not as "sinus" but as "cataracts" or "keratitis." Unfortunately, many of these are seen too late to conserve vision.

His cases of multiple sclerosis should put us on guard, for the early case is most difficult and, at times, seemingly impossible to diagnose. However, a careful history will sometimes help, for nearly every case has had an early diplopia or increasing phoria. It is possible that the occlusion test would show early marked imbalance in these latter cases.

Such a history and findings in the presence of reduced vision should be sufficient to put the consultant on the alert for a scotoma. We should use the perimeter and scotometer more often.

Dr. Bedell presented cases of drug reaction but did not mention allergy. There are cases of sinusitis, headache, and retrobulbar neuritis caused by this little understood phenomenon. Drugs, foods, and other proteins may produce these tissue reactions.

We should all be grateful to Dr. Bedell for his presentation of this stimulating review.

THE DISSEMINATION OF TUBERCLE BACILLI FROM FRESH AUTOPSY MATERIAL

RUELL A. SLOAN, M.D., Buffalo, New York*

THIS presentation is a preliminary report upon a subject that is important from a public health standpoint, especially to medical school and hospital personnel throughout the country.

During a discussion of the various methods of dissemination of the tubercle bacillus, past rumors were unearthed which led members of our department to wonder whether fresh autopsy material was not a potent source of atmospheric contamination. Mention was made of the isolation of acid-fast organisms from the surface of eyeglasses worn during an autopsy on an active case of tuberculosis. It had also been noted that the incidence of tuberculosis among medical students appeared to be proportional to their contact with autopsy material during the second year in medical school. Correlation of these rumors with the physical characteristics of the aerated lung led us to believe that the method of examination, coupled with the presence of air in the lung, might possibly be responsible for the dissemination of bacteria from fresh tuberculous material. Compression of the crepitant lung, causing expulsion of minute amounts of bacteria-laden air, might simulate a human cough in the manner of bacteria dissemination.

Another purpose of this study was to test the validity of the frequently repeated statement that fresh autopsy material, due to the adhesive properties of the surface moisture, is relatively innocuous as an air contaminant.

With these ideas in mind, equipment was designed to make possible a study of the problem. A glass-enclosed elevating shield, 22 by 26 by 13 inches, was constructed. This shield was equipped with a centrally placed glass plate, 20 by 14 inches, situated 8 inches directly above the specimen.

Procedure of Examination

Before and during the examination period, necessary precautions were taken so that all drafts from fans, open windows, and the like

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 30, 1941.

From the Edward J. Meyer Memorial Hospital, Buffalo.

* Dr. Ruell A. Sloan is now a member of the Department of Pathology, Children's Hospital, Boston.

were prevented. During examination the lungs were partially cut into two or three longitudinal sections, and each section was tested for crepitation. The trachea was opened, regional lymph nodes were examined, and all cavities were opened with scissors. Special mention is made of the compression of all cut surfaces and the use of scissors, because these two means of examination are too frequently overemphasized by medical students and junior pathology interns. No undue sudden movements that would predispose to splashing were allowed.

For the sake of uniformity, only the lungs from patients dying of pulmonary tuberculosis were used. After a fifteen-minute examining period of multiple section and dissection, the glass plate was inverted and washed with 10 cc. of sterile saline solution and the washings were centrifugated. Following centrifugation, the sediment was used to make four smears. After routine concentration the remaining fluid was cultured on egg albumin-glycerin mediums. Because of Corper's theory¹ that it is necessary to have 100,000 tubercle bacilli per cubic centimeter of sputum before they can be recognized with the Ziehl-Neelson staining technic and also because of the recently demonstrated superiority of the fluorescent method of Richards and Miller² for acid-fast organisms, it was decided to use the latter method, employing the routine Ziehl-Neelson technic for comparison.

In Table 1, 8 of the 10 cases tested showed a growth of tubercle bacilli in periods varying from twelve to fifty-one days. Gross examination of the glass plate showed it to appear similar to the predissection period. In only a few instances was there a sufficient number of minute, dried droplets to make the glass appear spotted.

A finding, incidental to the present study, is the marked discrepancy between the Ziehl-Neelson and fluorescent methods of staining. In the former, only 3 of the 8 cases were positive, in contrast to 100 per cent detection by the fluorescent method, on the basis of positive cultures.

Case 4 is of interest as shown in Table 2, which describes the physical characteristics of the lungs examined.

TABLE 1—DISSEMINATION OF TUBERCLE BACILLI—8-INCH DISTANCE

Case	Smears		Cultures	Remarks
	Fluorescent	Ziehl-Neelson		
1	Positive	Negative	16 days	Spot gross blood
2	Negative	Negative	Negative	Glass appeared clean
3	Negative	Negative	Negative	Glass appeared clean
4	Positive	Positive	12 days	Many dried droplets
5	Positive	Positive	51 days	Few dried droplets
6	Positive	Positive	22 days	Glass appeared clean
7	Positive	Negative	20 days	Few dried droplets
8	Positive	Negative	15 days	Glass appeared clean
9	Positive	Negative	17 days	Glass appeared clean
10	Positive	Negative	17 days	Glass appeared clean

TABLE 2—PHYSICAL CHARACTERISTICS OF LUNGS

Case	Diagnosis	Fibrosis	Edema	Crepitation (Obstructive emphysema)	Cultures
1	Pulmonary tuberculosis, III	3 plus	1 plus	1 plus	Positive—16
2	Pulmonary tuberculosis, III	3 plus	1 plus	Minimal	Negative
3	Pulmonary tuberculosis, III	3 plus	1 plus	Minimal	Negative
4	Pulmonary tuberculosis, III	Minimal	2 plus	3 plus	Positive—12
5	Pulmonary tuberculosis, III	3 plus	1 plus	Minimal	Positive—51
6	Pulmonary tuberculosis, III	2 plus	1 plus	2 plus	Positive—22
7	Pulmonary tuberculosis, III	2 plus	1 plus	2 plus	Positive—20
8	Pulmonary tuberculosis, III	1 plus	2 plus	2 plus	Positive—15
9	Pulmonary tuberculosis, III	1 plus	2 plus	1 plus	Positive—17
10	Pulmonary tuberculosis, III	1 plus	2 plus	2 plus	Positive—17

In Table 2 the comparative amounts of edema, fibrosis, and aeration of the lungs are tabulated. Case 4, previously referred to, shows fibrosis to be minimal, while aeration is marked. Compression of this lung produced numerous droplets and resulted in a glass plate that was definitely spattered. Smears and cultures were strongly positive. The Ziehl-Neelson smears showed as many as 5 to 7 organisms per oil-immersion field, comparable to a Gaffky V to VI. Growth on the cultures occurred within twelve days, a relatively short period even when grown from positive sputum. In general, the degree of dissemination appeared to be inversely pro-

portional to the amount of fibrosis or directly proportional to the amount of enclosed air.

Conclusions

First, methods of examination which make use of a compression technic contaminate the atmosphere in the vicinity of the autopsy.

Second, within the limitations of this study, fresh tuberculous lungs are decidedly dangerous and are a potent source of atmospheric contamination against which methods of proper protection should be devised.

References

1. Corper, H J. JAMA 91: No 6, 371 (1923).
2. Richards, O W, and Muller, D K: Am J Clin Path 11: No 1 (Jan) 1941

POSTGRADUATE LECTURES

A course in pediatrics, arranged by Dr. Charles Hendee Smith, New York City, for the Nassau County Medical Society, is now being given in the auditorium of Meadowbrook Hospital, Hempstead, on the fourth Monday of each month at 4:00 P.M. and is a cooperative endeavor between the New York State Department of Health and the Medical Society of the State of New York.

October 27—Deficiency Diseases, A. A. Weech, M.D., College of Physicians and Surgeons, Columbia University; November 24—Preventive Pediatrics and the Periodic Health Examination, Gaylord W. Graves, M.D., New

York University, College of Medicine; December 22—Blood Dyscrasias in Infancy and Childhood from the General Practitioner's Viewpoint, Charles L. Wood, M.D., Columbia University, College of Physicians and Surgeons; January 26—Rheumatic Fever, Chorea and Heart Disease, Katherine Dodge, M.D., New York University, College of Medicine; February 23—Diarrheal Diseases, Acute and Chronic, Harry Bakwin, M.D., New York University, College of Medicine; and March 23—Recent Developments in Communicable Diseases, Phillip M. Stimson, M.D., Cornell University Medical College, New York City.

RECTOCELE

A Constant Lesion Frequently Overlooked in Standard Repairs

JOSHUA WILLIAM DAVIES, A.B., M.D., F.A.C.S., New York City

THE passage of a child through the bony pelvis incurs a certain amount of anxiety for the obstetrician—"Will it pass?" After that uncertainty has been relieved, as evidenced by the bulging of the skin and the muscles of the pelvic outlet, the obstetrician must continue to wait for the complete delivery until the perineum has retracted over the presenting part. The mother at this time occupies his first consideration, because a hasty delivery may unnecessarily damage and perhaps incapacitate her for life.

As the head attempts to pass through the soft parts they must be enormously distended to permit delivery. The pain accompanying this process invokes a spasm of the voluntary muscles which tends to repress the final stage of labor. This spasm, however, is overcome by the gradual descent and retraction of the presenting part which, after a reasonable time, brings about fatigue in the voluntary muscles. Once they are fatigued it is merely a short while before the fascia surrounding the muscles stretches and permits retraction over the presenting part.

A reasonable delay at the pelvic outlet is desirable, for a precipitous delivery may bring about a sudden change in intracranial pressure and thereby damage the child or the mother may be lacerated abnormally. There is a limit, however, on the time that the head should be permitted to pound the pelvic floor. Experience has shown that both haste and delay are productive of lesions that weaken the musculo-fascial components of the pelvic outlet.

We are all familiar with the patient whose voluntary muscles have been fatigued by the constant pounding of the perineum and yet, instead of retracting over the head, the entire perineum bulges beyond the pubic arch because the fibrous tissue deep to the levator resists stretching. Suddenly it gives way and delivery is rapidly completed. Inspection of these cases may fail to reveal a laceration of

the skin, and the tired obstetrician is buoyed up because he has no repair to perform. It is only after the anxiety of delivering the child has passed and the mother returns for an evaluation of her physical condition that the obstetrician very readily learns that the process of labor in some women is accompanied by definite lesions. Such lesions, while slightly disfiguring, are not disabling and cause only mild inconvenience. With time, and particularly at the menopause, the slight tear under the influence of intra-abdominal pressure may deflect the force of extrusion to other structures and eventually bring about a general relaxation similar to that immediately after labor. The patient now notices that she tires easily and prefers not to stand for long periods of time. Accessory voluntary muscles, such as the legs, are used to exert pressure and afford temporary relief. In almost any group of women it is not difficult to find a relatively young woman who would otherwise be happy and aggressively occupied were she not handicapped by a minor lesion that might have been prevented. Women having such a complaint should be educated to seek relief early. The lesion, because of its very nature, becomes progressively worse, so that early reconstruction will go a long way in our effort to sponsor a happy, cooperative home.

It is my impression that the levator ani muscle, particularly the iliac portion, dilates the anus by its contraction. The pubococcygeal portion by its contraction draws the various openings of the pelvic outlet toward the pubic bone and thereby strengthens an area weakened by the perforating ducts. During the process of labor as the presenting part is forced into the pelvis, it strikes the funnel-shaped levator, and through a process of direct irritation and definite force the anus becomes dilated. The pubococcygeal portion, however, by its contraction tends to draw the dilated anus anteriorly, so that at times it may appear much easier for the head to pass through the anus than through the vaginal introitus.

In due time the pubococcygeus muscle becomes fatigued, and with the downward displacement of the coccyx the anus is drawn

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 29, 1941.

From the Department of Anatomy, College of Physicians and Surgeons, Columbia University, and Woman's Hospital

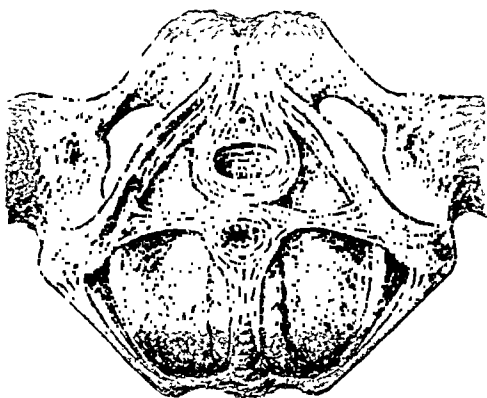


FIG. 1. The spasm of the pubococcygeal muscle, initiated by the descent of the child, draws the anus and the coccyx forward. Pressure against the anterior rectal wall tends to stretch it and at the same time the anus may be torn from it. At this stage the anal opening is more nearly in the axis of the pelvis than is the vagina.⁴

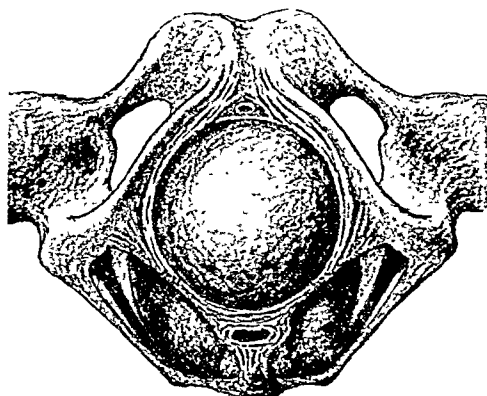


FIG. 2. Fatigue of the pubococcygeal muscles permits the coccyx to be displaced and draw the anus posteriorly. The vagina now is in the axis of pelvis and directs the head between the two pubococcygeal muscles. The stretching of the introitus frequently tears those muscles that end or pass through the central tendon of the perineum. An extension of the tear may involve the thinned-out rectal capsule.

posteriorly, so that the line of force is now more nearly in the axis of the vagina. Not only is the posterior vaginal wall utilized in directing the head toward the vaginal introitus but the anterior wall of the rectum is likewise utilized. In many cases it is inverted into the cavity of the rectum and may be stretched considerably.

Lesions to the levator are almost always predestined to be in the same location. This predilection is caused by the head passing between the two pubococcygeal bundles under

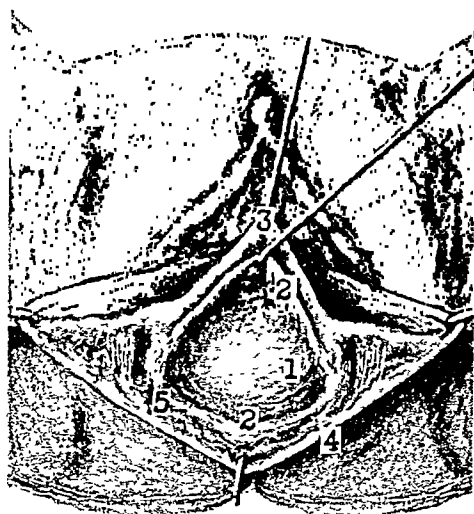


FIG. 3. The rectum (1) bulges through a transverse tear of the rectal capsule (2). The rectovaginal mesovagina (5) are seen deep to the levator muscle. They connect the rectal capsule with the vaginal capsule and contain branches of the middle hemorrhoidal vessels which run to the posterior vaginal wall.

the guidance of the vaginal tube. The tear is usually in the central tendon of the perineum and divides the decussating muscular fibers of the levator. At the same time the transverse perineal and bulbocavernous muscles are also divided.

A casual observer could readily tell which woman needed stitches. In many patients a simple denudation and several through-and-through sutures, if done early, would suffice. Dr. Byron Goff³ has worked out a sensible technic for the repair of such cases, but to a critic's eye the vulva may still gape and the rectum may bulge, so that the general appearance is not exactly that of a woman who has never had a child. In an attempt to correct the bulging rectum, Dr. George Gray Ward¹ has described an additional lesion in the so-called "pillars" of the rectum, which lie on the abdominal surface of the levator and run from the rectum to the posterior vaginal wall. Dr. Ward utilizes this structure to support the anterior rectal wall by transplanting the anterior extremity proximal to its normal insertion.

Dr. Benjamin P. Watson² likewise utilizes this structure in his reconstruction of the pelvic outlet and, once he demonstrates it to the visiting surgeon, no operation will be complete until this firm suturable structure has been reconstructed.

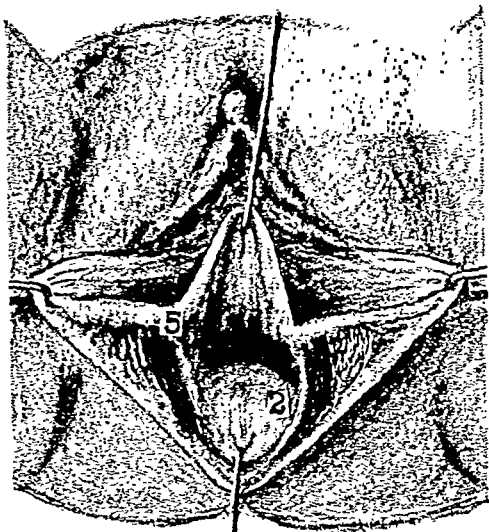


FIG. 4. Traction on the rectal capsule, readily identified proximal to the crest of the rectocele, covers the defect in the anterior rectal wall. It is anchored close to the anus between the rectal attachments of the rectovaginal mesovagina.

For those who may wish a description of this flat tough tissue it may be easiest to begin higher in the abdomen where the parent layer binds the aorta in place. From the aorta the parent tissue can be traced to the kidney, where it forms the fatty capsule of this organ. In the pelvis it forms the capsule of the bladder, the vagina, and the rectum. Deep to the central tendon of the perineum this tissue is somewhat heavier than elsewhere. It connects the capsule of the rectum with the capsule of the vagina and carries branches of the middle hemorrhoidal vessels from the anterior surface of the rectum to the posterior wall of the vagina.

I prefer the descriptive term "rectovaginal mesovagina" to the indefinite terms "pillars of the rectum" or "endopelvic fascia." The rectovaginal mesovagina is of interest to those surgeons who find that after excising a segment of the posterior vaginal wall and doing a perineorrhaphy the rectum still continues to bulge into the lumen of the vagina.

The entire perineum is forced distal to the normal position between the ischial tuberosities at the end of the second stage of labor. This means that the rectum must elongate to accompany the displaced anus. The child's face, however, by compressing the rectum against the sacrum limits the stretching to an area immediately proximal to the anus. A

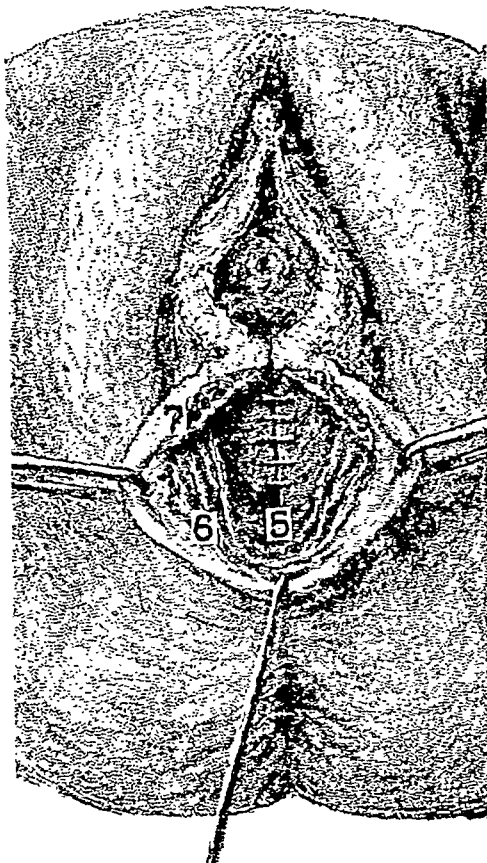


FIG. 5. The rectovaginal mesovagina (5) have been reapproximated with interrupted sutures. The levators (6) are located by a suture which grasps the tissue lateral to the anus. The superficial perineal muscles (7) are closed with a continuous suture.

tear in the rectovaginal mesovagina, which accompanies the tear of the central tendon of the perineum, may extend posteriorly to the stretched rectal capsule. If the capsule is involved, the extension is horizontal. It is through this transverse slit in the rectal capsule that the muscularis of the rectum bulges and becomes adherent to the posterior vaginal wall. The rectal adhesion interferes with the tonicity of the rectum and predisposes to constipation.

The reconstruction of a rectocele and a laceration of the pelvic floor should be directed to the following structures:

1. The scar in the posterior vaginal wall.
2. The lacerated capsule of the rectum.
3. Anchoring the apex of the vaginal reconstruction to the rectal capsule near the anus.

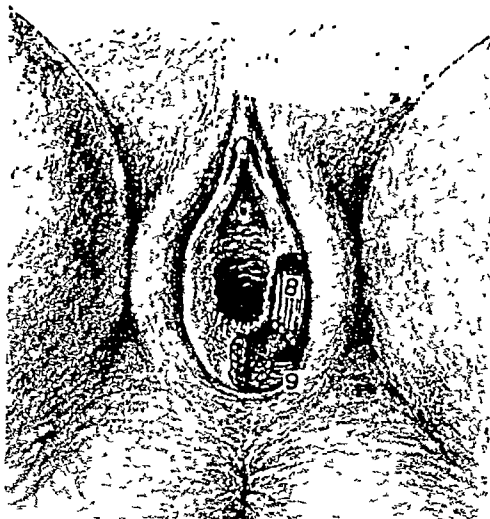


FIG. 6. A transverse suture in the posterior perineal body will draw the transverse perineal muscle (9) into the central tendon, but the retracted bulbocavernosus muscle (8) must be secured by a suture that passes lateral to the vagina in the substance of the labia minora. Failure to reattach these muscles causes the vulva to gape and removes an accessory voluntary urethral sphincter.

4. Reapproximation of the retracted rectovaginal mesovagina.

5. Reapproximation of the levators in the central perineal body.

6. Reapproximation of the deep transverse perineals, as well as the superficial perineal muscles.

7. Anchoring the retracted ends of the bulbocavernosus muscles into the posterior perineal body.

Repair

Of the various methods of approach to the damaged structures, I prefer to begin by making a triangular denudation of the skin over the central perineal body. The apex is directed toward the anus with the base at the hymen. Such a denudation removes the irregular patch of mucous membrane which lines the defect and exposes the deeper structures in the perineum. The posterior vaginal wall is then separated from the dense rectal adhesion resulting from the laceration of the capsule of the rectum and the retraction of the rectovaginal mesovagina. Following this difficult separation, the proximal area of the vagina is readily separated from the rectum. A clamp is now placed on each rectovaginal mesovagina, and traction is made anteriorly to expose their origin from the rectum. At

this point it will be noted that the rectum is devoid of a fibrous capsule and that the muscularis bulges through a transverse laceration of its capsule. Small localizing clamps are now placed on the edge of the retracted capsule, and a continuous suture is placed to reattach the retracted edge to the posterior extremity of the rectovaginal mesovagina. This procedure covers the muscularis of the rectum with a restraining capsule, offers support to the involuntary muscular fibers of the rectal wall, and thereby tends to increase the tonicity of the ampullar portion.

The scar of the posterior vaginal wall is excised and the defect is closed as far as the hymenal tabs with interrupted sutures. It is suggested that one of these sutures grasp the rectal capsule near the anus. This tends to prevent the extrusion of a tab of posterior vaginal wall which may be interpreted as a recurrent rectocele.

The preceding reconstruction has been directed to the rectal capsule and to the posterior vaginal wall. The repair of the lacerated pelvic floor is directed to the voluntary sphincters of the vagina and the layer of preperitoneal tissue, deep to the levator muscles.

The rectovaginal mesovagina is accurately closed with three or four interrupted sutures. It is this step in the usual perineorrhaphy which is frequently overlooked. The general surgeon may obtain an approximate apposition of this structure by through-and-through sutures, but the gynecologist strives to prevent recurrences by being specific in the various steps. After the reconstruction of the rectovaginal mesovagina, our attention is directed to the pubococcygeal portion of the levator muscle. These bundles need not be exposed by blunt dissection, for the placing of a suture lateral to the anus will identify the muscle as it courses to its insertion into the anus. Subsequent sutures reapproximate the pubococcygeal bundles until the introitus of the vagina is narrowed to an opening that admits two fingers. It is advisable to place all the levator sutures before tying them, because the last untied suture may be used as a retractor to identify the structure about to be reapproximated. In order to obliterate the dead space between the mesovagina and the levators and restore them to their normal anatomic position, several of the levator sutures should catch the deeper layer, particularly the suture closest to the posterior wall of the vagina.

The superficial layers of voluntary muscles may be drawn together by a continuous suture

that begins at the hymenal tab and extends anteriorly, lateral to the vagina in the substance of the labia minora, to secure the retracted bulbocavernous muscle. A similar movement secures the muscle of the opposite side and anchors the posterior extremities of the bulbocavernous muscles in the central perineal body. The transverse perineal muscles and Colles' fascia are reapproximated as the suture is continued toward the anus. Returning, intracutaneously, the suture unites the skin.

Such a technic should restore the contour of the anterior rectal wall and reconstruct a more normal perineal body. At the completion of the operation it is necessary to retract the labia minora before the hymen can be visualized. The latter requirement is particularly important in operations for urinary stress incontinence, for reattachment of the retracted bulbocavernous muscles restores the function of this muscle as an angulator of the urethra.⁵

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Discussion

Dr. Edward P. McDonald, *Albany, New York*—After every delivery the pelvic floor shows evidence of injury to a greater or lesser degree. The end results of these injuries are shrinking and atrophy of the pelvic diaphragm, cystocele, rectocele, and prolapse of the uterus, all in direct proportion to the degree of injury and the structures injured.

To evaluate correctly Dr. Davies' paper, one must look at it from both the obstetric and the gynecologic points of view.

Dr. Davies has correctly pointed out that too rapid expulsion of the head *may* cause intracranial damage. It is equally true that too much pressure by the obstetrician to hold back the head in an attempt to "save the perineum" may cause similar damage to the infant.

The time has passed when the well-informed

obstetrician points with pride to the woman he has just delivered "without a tear"—i.e., a visible tear. All too often there is a submucous separation of the muscular fibers of the levator and also a tear of the rectovaginal mesovagina. For this reason, it is my opinion that almost routine episiotomy should be performed in primiparas—before these damaging lesions have occurred. If the episiotomy is a mediolateral one, it will prevent the lesions to the levator, which are almost always destined to be in the same location. A reasonable familiarity with the anatomy of the pelvic floor will enable the obstetrician to do a satisfactory repair of the episiotomy wound.

The worst type of perineum is the "bulging" one mentioned by Dr. Davies. The vulva is pushed forward with the advancing head, and it is in this type that episiotomy should be done early—under local anesthesia.

Where the obstetric care has not been of the best and where the lesions described by Dr. Davies have occurred, then his technic of repair is probably correct.

Curtis says, and rightly so, that restoration of the perineum is based upon "first, the operation of Emmett, who restored the levator ani and fascia by lateral sutures which unite and elevate the muscles and fascia; or, secondly, the operation of Hegar, who sutured the muscles and fascia in the midline." Most operators today employ a combination of these two procedures.

If one reviews the literature on the repair of rectocele, he will find a multiplicity of operative procedures, most of which are based upon the principles mentioned above. Whenever multiple procedures are advocated for the cure of any single surgical problem, one of two things usually exists. Either none of the procedures is completely satisfactory or all of the operations based on anatomic restoration give reasonably good results.

In principle, Dr. Davies, too, follows these fundamentals. Also, he brings out and stresses an important and often overlooked point—"the reapproximation of the retracted or torn rectovaginal mesovaginas"—and in doing so, he probably gives the answer to the too frequent failure of permanent cure in perineal repairs.

Dr. Davies has given in detail the steps of an excellent procedure for the repair of pelvis floor injuries, and his results should be equally good.

In his paper Dr. Davies mentions that perineal injuries have a tendency to become progressively worse, and he advocates "early reconstruction." I should like to ask him what he means by "early reconstruction."

The great Justice Holmes was once asked why he wrote his decisions at a standup desk and he

replied, "Nothing contributes to brevity like the giving of the knees."—*Wichita Medical Bulletin*

THE PROBLEM OF PRURITUS VULVAE

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PRURITUS vulvae is an extremely unpleasant and distressing symptom. It so dominates clinically the many physical conditions that cause it that our textbooks and literature primarily consider this symptom of itching and discuss more or less incidentally the causes and pathology that will produce it. In a practical approach to the subject this is probably well. One has only to see patients showing scratch marks with excoriation and to learn of their sleepless nights, constant unrest, and suffering to realize that pruritus vulvae is a challenge to our earnest endeavors for its relief.

Necessarily, any scientific approach to the cure of pruritus vulvae means an understanding of, and ability to diagnose, the conditions that cause it. They are many. In general, the causes may be classified into four groups, and these, if borne in mind, will give the physician the basis for a rational treatment. The first group includes only one condition—an itching that is associated with no discoverable local lesion and which is designated as "idiopathic pruritus." The name itself implies that its cause is unknown. In the second group are the conditions that will produce irritation of the vulva and which may result in a full-blown dermatitis. These conditions are most frequently associated with vaginal discharges and, more rarely, to conditions of the urine such as glycosuria or by the irritation of a highly acid or infected urine. The third group consists of conditions of the vulva which are brought about by, or associated with, the withdrawal of ovarian secretion. This atrophic state of the vulva is often aggravated by factors that arise in the vagina. One of these is a simple serous or an infected discharge that may result through the loss or impairment of the vaginal protective epithelium. In the fourth group are specific conditions of the vulval area in which are found the yeast and other fungi and the more rarely encountered pediculi pubis and psoriasis. In this group may also be placed leukoplakia and kraurosis. All instances of pruritus vulvae may be found to fall into one or another of these four groups.

The idiopathic pruritus is probably due pri-

marily to nerve dysfunction. Careful search will disclose no skin lesion except that occasioned by scratching. These cases may be intractable and will cause as great suffering as other conditions due to a demonstrable etiology. The cause being unknown, there is no rational treatment, but these patients can be made comfortable by a palliative procedure to be described later.

The second group, those conditions that produce a dermatitis, is a large one and may be encountered at any time of life. Children with an irritating discharge due to a simple vaginitis or to a vulvitis from uncleanness will frequently complain of pruritus. Masturbation will occasionally supply the irritation, or at times the irritation will result in masturbation. A trichomonas vaginitis is undoubtedly the most common discharge of all to cause vulval pruritus. The recognition of this cause will suggest the successful treatment for the cure of the pruritus. In women in or past the menopause, a senile vaginitis, and a secondary infection that may result, will give rise to a disturbing pruritus. Here again, to determine the etiology leads to the cure. A vulvitis due to conditions of the urine usually presents no difficulty in diagnosis. The appearance of the vulva in glycosuria is characteristic. The vulva is a deep red, may be slightly swollen, and has a definite lack luster appearance. A urinalysis will establish the diagnosis. Treatment here will yield prompt results. Other conditions of the urine—highly acid or infected urines—will produce a vulvitis far more frequently in the very young or in those past the menopause. The treatment here suggests itself. With these four groups in mind the physician is in a position to examine the patient with pruritus with some hope of determining its cause.

First in clinical importance is the age of the patient. There are three age groups to be considered: the first group takes in the children up to the time of puberty; the second group, between puberty and the menopause; and the third group, during the menopause or after the menopause has been definitely established.

In children before puberty, the epithelium of the vagina and vulva offers relatively slight resistance to infection and irritation. In this age group a discharge from any cause may

produce pruritus, and in untreated cases a vulvitis will often develop to increase the itching and to result in secondary infection. In all of such cases an examination will show a reddened vulva, and in those instances where scratching has produced infection, a well-established vulvitis is found. On these more irritated surfaces an acid urine will cause smarting and burning that add much to the discomfort of the child. Here, inasmuch as the vulvitis dominates the picture, it is often considered as the basic etiologic factor. In my experience the basic factor is far more frequently a discharge, which at times is overlooked by the physician. It is the discharge that requires primary attention. I have found that a zinc chloride douche, to be discussed later, is more efficient and gives the best results in all vaginal discharges from whatever cause. A gonorrheal discharge in the child will occasionally cause pruritus. This may always be treated with an estrogen, either by injection or by suppository. In the children who also complain of burning on urination the urine should be rendered alkaline or neutral by appropriate remedies. Rest and applications of hot boric acid solution may also be necessary in the cases associated with marked vulvitis. In instances in childhood which show no discharge, any itching will be found to be due to diabetes or to a highly acid or infected urine. If the urine cannot be determined as the cause, pinworms or irritation from uncleanness may be suspected.

It is in the ages from puberty to the menopause that the widest variety of factors causing pruritus is found. Here one finds the idiopathic pruritus in which examination shows no discharge or condition of the vulva to explain it. The vulva will show no skin changes, but occasionally the results of scratching will be seen. Since the cause of it is unknown, one must be content to treat it as a symptom only. The treatment of these cases has always been unsatisfactory. I have found only one efficient remedy for this condition—the injection of urea and quinine solution. Its value lies in the fact that it not only gives prompt relief for several days but often several repeated injections will give relief over a period of months. When we first undertook treating these cases in this way, solutions of one-third of 1 per cent were used, and we had a constant fear that sooner or later a necrosis would result. Since this did not occur, we turned to stronger solutions and now use urea and quinine in 1 per cent solution. That no necrosis occurs is doubtless

due to the fact that the vulval bed consists of a loose connective tissue and into this the injection is made well below the skin.

Also, in this age group discharge is commonly found as an etiologic factor. The most frequent discharge encountered is that caused by the *Trichomonas vaginalis*. The itching produced, especially during the early stage, is often intense. It is rather surprising that the recognition of the cause of this discharge is so frequently overlooked. It is true that there are still problems in connection with the *T. vaginalis* that are as yet unsettled. The source of the infection, its relation to the presence of other bacteria, and the reason why it is so difficult to free the vagina of the organisms are all questions still under discussion. The diagnosis, nevertheless, is easy. In an early or untreated case the bubbly appearance of the discharge, the punctate points of redness on the cervix and vaginal walls, the more or less disagreeable but not foul odor are all that is required for a correct diagnosis. Any doubt can be cleared up or confirmation established by the warm hanging drop in which the moving organisms can be demonstrated. The importance in recognizing this infection as the cause of itching is obvious, for, if appropriate treatment is instituted, the itching is relieved promptly.

My procedure in these cases is simple and satisfactory. The douche of zinc chloride is used morning and night for three or four days, and a pledget of cotton is placed between the labia to absorb the discharge. This cotton should be frequently changed. The itching at the end of three or four days is relieved and the discharge is decreased. The patient is then given suppositories of silver picrate with instructions to use one-half of a suppository each night following the douche. The morning douche is discontinued. After the silver picrate has been used for three weeks it may be stopped, but the douche must be continued long after the patient believes herself cured. Other treatments that have been suggested have been tried, but we have been unimpressed with the results.

There are two other conditions occasionally seen in women near the menopause in this age group; one is leukoplakia and the other is an early kraurosis. These are far more commonly seen, however, after the menopause has been established. For this reason these conditions will be considered in more detail later. Because these conditions are not definitely known and because the earlier stages bear some re-

semblance to each other, such cases are frequently confused.

Diabetes is also relatively common in this age group. A diagnosis of the disease can often be established by the appearance of the vulva in patients who apply for relief of pruritis. A red lack luster labial surface always suggests a urinary examination.

Infected vaginal discharges will now and then cause pruritus. Two such cases were encountered in young unmarried women who had, strangely enough, forgotten that they had inserted at the end of menstruation a menstrual tampon. In 1 patient the tampon had remained in the vagina for nearly three months. The foul-smelling discharge and itching were easily remedied after the removal of the tampon.

Psoriasis of the vulva has rarely been seen in my experience. As a rule, however, it is easily recognized by the scales and the reddened cracked and bleeding surfaces produced by the violent scratching. Further search will probably reveal other lesions, or the patient will give a history of treatment for the disease. In these cases judicious use of x-ray or the sun lamp will often give relief. I believe, however, that such cases should be in the hands of a competent dermatologist.

In the last age group—at and after the menopause—there are a number of factors to cause pruritus. The majority of these causes result primarily from the histologic changes that take place in the genital tract by the withdrawal of ovarian secretion. The thinned epithelial surfaces of the vagina and vulva foster conditions favoring vaginal infection and to the exposure on the vulva of the nerve ends. Recognition of this fact simplifies the understanding of many cases of pruritus seen in this group and also suggests a proper treatment.

All discharges of the menopause may cause pruritus vulvae. The discharge resulting from an atrophic vaginitis is due to a slight serous exudate from the vaginal surfaces and, more especially, from the small denuded areas that so frequently are to be found upon the cervix and vaginal walls. The amount of this discharge is usually not large but is sufficient to keep the vulval surfaces moist. The thinned protective epithelium of the vulva permits irritation of the terminal nerves with itching or burning as the result. Scratching of this surface quickly causes excoriation with possible vulval infection. Furthermore, the vaginal serum affords a favorable medium for bacteria and, thus, a

simple serous vaginal discharge frequently becomes purulent. When infection does occur, the itching becomes more intense. There are two indications in these cases. The first is the use of an estrogen to promote re-establishment of a more protective epithelium, and the second is the use of an astringent douche. The zinc chloride douche meets this indication. Estrogen must be given in large dosage of 10,000 units daily until there is evidence of an improved epithelium. In cases that have been neglected until vulval dermatitis with excoriation and thickening is present, complete relief of itching can be secured by the injection of urea and quinine. Naturally, the influence of glycosuria and infected urine will cause itching in this age group much more readily than in the reproductive age group. This must be kept in mind.

There now remains for discussion leukoplakia and kraurosis. There has been much confusion in connection with these two conditions. This results from the fact that the early stages of the two conditions somewhat resemble each other. The first distinguishing feature is the fact that leukoplakia may begin at anytime during the reproductive age and kraurosis begins far more frequently at, or after, the menopause. They both develop slowly and both are, therefore, chronic diseases. Leukoplakia in its early stage appears to be an inflammatory condition that is attended by intense itching. The early stage of kraurosis causes slight itching or may be attended by no symptoms. Leukoplakia becomes a thickening and a cornification of the epithelium of the vulva, and this process may extend to the inner sides of the thighs and around the anus. Kraurosis is confined only to the vulva, and late in the disease it is characterized by a marked atrophy of all the vulval tissues. As leukoplakia develops, marked thickening occurs and whitish areas appear where a piling-up of epithelium has taken place. The intense itching and the scratching for its relief causes excoriation and fissures on the dry surfaces. As kraurosis develops, a shrinking and actual disappearance of the labia will take place leaving a shiny reddened surface that eventually becomes extremely contracted. Leukoplakia not infrequently results in vulval carcinoma. Kraurosis seldom, if ever, gives rise to malignancy. This point of difference indicates the importance of the recognition and adequate treatment of leukoplakia.

The cause of leukoplakia and kraurosis being unknown, the treatment of both are

more or less palliative. The itching of leukoplakia is intense, and the only successful palliative treatment in my experience is urea and quinine. Carcinoma in these cases develops most frequently after the menopause, and a woman with excoriations, fissures, and ulcers of the vulva is in grave danger. Such a case in my opinion should be subjected to a vulvectomy. This is a simple operation easily accomplished and should not be delayed until after actual carcinoma has developed. In addition to eliminating the danger of carcinoma, a vulvectomy will also afford relief from the itching.

Textbooks in the discussion of pruritus vulvae are inclined to emphasize ointments and washes. I have had no success with any of these. They are the product of the days when the causes of pruritus were not so well understood. X-ray as a treatment may at times give relief. In my experience I have seldom found reason to advise it. My pessimistic view as to the efficacy of x-ray has probably developed because of the fact that a certain proportion of my cases have previously been unsuccessfully treated by it.

The injection of alcohol about the vulva is effectual but so painful that an anesthetic is needed at the time of injection. Many points of injection are also required. For these reasons a solution of urea and quinine is to be preferred. It can be injected at the office and can be used freely. Three or four areas of injection on each side is usually sufficient. Some smarting occurs at times, but this usually quickly subsides. The first injection may give relief for several days, but on the re-appearance of the itching it should be repeated. Three or four injections at intervals depending upon recurrence of the itching is usually sufficient. These intervals of relief afford an opportunity to treat the cause.

The technic of the injection is simple but it must naturally be done with strict attention to antisepsis. The points selected for the injection are touched with iodine and the injection is made. I prefer the urea and quinine supplied in ampules. The insertion of the small needle is not more painful than any other hypodermic. Even in cases with excoriation and dermatitis the injection can be safely done. In only one such case was there a superficial infection at the point of injection. As has been said, in over one hundred injections no necrosis was seen. In patients

in whom the pruritus extends about the anus, small injections into this area can be made. I have never attempted to inject the pubic nerve, and I see no good reason for believing that it would be more efficient.

The zinc chloride douche that has been advised consists of hydrochloric acid 1 cc., zinc chloride 30 Gm., and distilled water 240 cc. The solution should neither be cloudy nor show a sediment. Of this solution, 8 cc. is added to 1 quart of warm water. The douche is best taken at night, since there remains in the vagina a small amount of the fluid that permits its more prolonged effect. In some instances the amount of zinc chloride may be increased. This douche will be found efficacious in practically all discharges arising within the vagina.

Summary

1. The causes of pruritus vulvae are grouped under four headings as an aid in determining the etiologic factor in a given case.

2. Pruritus is clinically classified into cases occurring in children, those occurring during the reproduction years, and those occurring at or following the menopause. This clinical classification offers help in rational treatment.

3. The palliative treatment advised is the use of urea and quinine injections about the vulva.

Discussion

Dr. J. Craig Potter, Rochester, New York— I have enjoyed listening to Dr. King's paper. Since the use of quinine and urea hydrochloride for this purpose is new to me, I have nothing to add.

I shall confine my remarks, therefore, to yeast and fungus infections of the vulva associated with pruritus. This is common, but many cases are objectively subclinical.

One must begin by asking about the condition. Modesty may prevent the patient mentioning itching. Does she or the husband have athlete's foot or other evidence of yeast infection? Most patients, thinking that extra cleanliness will help, add a soap dermatitis to the condition.

In treatment, then, stop soap. Use powder after a bath, for dryness is important. Tar, salicylic acid, and sulfur are helpful. X-ray is also valuable. Finally, the dyes, such as gentian violet, may help.

In closing, I wish to thank Dr. King for a new method of treatment which I am anxious to try.

CHRONIC HYPERTROPHIC OSTEOARTHRITIS IN THE CERVICAL SPINE WITH RADICULITIS

A Report of 40 Cases with a Review of the Literature, Together with Some Notes on Effective Methods of Treatment—Part I*

LE MOYNE COPELAND KELLY, M.D., F.A.C.P., New York City

RECENTLY, I have been impressed with the increasing incidence of hypertrophic osteoarthritis of the spine, as seen both in private and clinic practice, and have been prompted to study this condition more carefully, especially in relation to the wide variety of root symptoms which it can produce. There are many reports describing the characteristic symptoms of "peripheral neuritis," but little has been written regarding such other symptoms as headache, earache, sore throat, facial neuralgias, and pseudoangina, which at times may be part and parcel of this syndrome. Accordingly, certain interesting cases will be presented herein.

Moreover, the opinion seems to be held rather generally^{4,12,14,31} that the hypertrophic changes about spinal vertebrae, so commonly seen in the x-ray in older people, do not ordinarily cause symptoms of any kind. I want to stress the fact that many of these patients with pains in the shoulders and arms have a radiculitis from osteoarthritic changes in the cervical spine and that such changes may or may not be demonstrable in the x-ray film.

We shall limit this discussion to the symptoms that may result from pressure on the cervical spinal roots. Only the differential diagnosis and treatment will be considered here, for the subject of radiculitis in all its aspects is, indeed, a broad one. Moreover, the anatomy, pathology, and pathogenesis of this disease complex have already been so admirably treated in a paper by Gunther and Kerr¹⁸ that they need no further consideration here.

Sore Neck, Painful Shoulders, and Neuritis in the Upper Extremities

Osteoarthritis in the spine as a cause of radicular pain is not in any sense a new syndrome, for it was well known to von Bechterew⁴⁶ nearly a half century ago. In differentiating it from the condition that bears his name, he called attention to the stiffness in the spine associated with pain and degeneration of nerve roots, sometimes accompanied

by alterations in sensation or even by atrophy of certain muscles along a radicular distribution. He ascribed these changes to a pachymeningitis with subsequent compression of spinal roots. Despite this lucid description, Bassoe,⁴ nearly thirty years later, deplored "our appalling lack of objective observations." He felt that this was due in large measure to the fact that too often we ignore the possibility of this condition when making a diagnosis.

In the older English literature frequent reference was made to the occurrence of brachial neuralgia and neuritis in the rheumatic and gouty subject,³⁹ and the statement was made⁶ that—apart from injury—a gouty deforming arthritis was undoubtedly the most important factor in the causation of arm pains. Even in the nineteenth century it was recognized that involvement of the lower cervical vertebrae with osteoarthritis resulted in soreness of the neck, pains in the shoulders, and a "peripheral neuritis" of the arms, forearms, and hands.

Today, it is generally conceded that sensory symptoms are common and that almost all cases have some pain or paresthesia. Gunther and Kerr¹⁸ point out that most root pains associated with aching and soreness and aggravated by motion of the neck are due to an osteoarthritis of the cervical vertebrae. There may be some disturbance of muscle action and, at times, even a definite atrophy of one or more muscles in the arm or forearm;⁴³ when this occurs in the hand, the patient's chief complaint is usually of inability to hold small objects. One case cited in the literature⁴⁷ showed a diminution in the size of an entire extremity, whereas, in other case reports^{5,50} the process involved only certain muscles or muscle groups. In this connection, Zabriskie⁵⁶ has stressed the fact that this disease may occur in varying degree, so that in one patient it may be present without producing symptoms of any kind, while in another it may cause localized or even widespread neurologic signs.

The outstanding characteristic of this syndrome is the aggravation of all root symptoms by movement of the spine, as well as by anything that tends to increase the pressure

* Part II and Part III of this article will appear in subsequent issues.

within the spinal meninges—viz., coughing, sneezing, or straining—Dejerine's sign.¹⁰ Turner and Oppenheimer⁴² described patients who were unable to sleep in a recumbent position because of the pain that was frequently brought on; also by jarring of any sort—viz., as in walking or riding. Others¹⁹ mention raising the head from the pillow, getting out of bed, bending, lifting, or prolonged sitting as precipitating causes of episodes of pain. There seems to be no unanimity of opinion as to whether neck motion is necessarily limited in all cases. Most observers have found^{18,20} that pain in this spot is usually associated with restriction of motion, but one group,⁴² after studying this condition in a series of 50 cases over a period of four years, reported only 2 in which there was any definite limitation of motion.

Hartsock²¹ describes the symptoms as aggravated by *flexion* of the neck, which, he says, causes a "stretching of the muscles." On the other hand, most writers^{3,7,18,23} maintain that it is *hyperextension* of the spine which increases the symptoms by causing a narrowing of the canals in which these nerves lie. This would appear to be especially true in the cervical spine where the size of the canals, in relation to the nerves, is not constant but diminishes from above downward. The sixth and seventh cervical nerves, although they are the largest,³⁶ have the smallest exits from the spine. Consequently, it is not surprising that Gunther and Kerr¹⁸ found that "symptoms referable to the lower cervical spine are twice as frequent as those to the upper, since there is a greater liability to mechanical irritation in this region." In confirmation of this, Hanflig²⁰ points out that the symptoms usually vary, according to the degree of mechanical interference with the roots as they leave the spinal cord, from numbness and paresthesias, where interference is slight, to actual pain, when the disturbance is more severe.

A few cases were mentioned in the literature⁵ which showed certain phenomena of irritation—viz., spastic torticollis and flexion contractures of fingers (in which, as a rule, only one or two digits were affected). This condition is interesting and is well illustrated by one of our patients, Case 34 (see Table 1).

Case Report

Mrs. M. S., aged 55, complained of pain in the right elbow, which had radiated to the wrist and fingers, for a period of two months. Examination revealed nothing except crepitus in the left knee. However, a roentgenograph of the lower cervical spine showed thinning of the

disks between the fifth and sixth, and the sixth and seventh vertebrae, with moderately severe hypertrophic changes in the adjacent bodies. Within seven days the right hand had become numb and swollen, and after seventy-two hours the middle finger was so stiff that she could scarcely move it. At the same time she developed pain in the midscapular region. The patient was advised to have x-ray therapy but refused, saying she preferred to try physical therapy and injections of vitamin B₁. Accordingly, she received a total of 405 mg. of thiamin chloride by muscle in a period of six weeks, without benefit.

Within four weeks the third finger had become fully flexed and could not be extended without great pain. Neurologic examination at this time showed diminution in the power of abduction and adduction in the right middle finger. The extensor tendon to that finger did not respond to the same strength of faradic current which stimulated the other fingers, and the right triceps reflex was diminished. There were no sensory findings. After approximately three months of physical therapy without benefit, the patient finally consented to treatment with deep x-ray, which was given in the form of 1,300 r units (in air). This resulted in complete relief of pain and some increase in function.

According to Turner and Oppenheimer,⁴³ who studied more than 50 cases over a long period, the pain may be quite variable in location and degree. The commonest complaint, however, was pain radiating down the arm to the radial side of the forearm, associated with paresthesiae in the fingers. Most of their patients were not conscious of any pain directly in the neck but were more apt to complain of pain in one or both shoulders or between the shoulder blades. Herein rests an important consideration in making the diagnosis, for a clue to the frequency of pain in these areas lies in the often overlooked fact that the fourth cervical nerve provides the sensory fibers to the top of the shoulder, while the fifth supplies the outer aspect of the arm as far down as the elbow. The deltoid muscle itself receives fibers from both the fifth and sixth, so that it is not difficult to understand why every case presenting complaints of pain or limitation of motion in one or both shoulders warrants a thorough study of the cervical spine. Case 33 demonstrates this very well.

Case Report

Mrs. E. J., aged 35, divorced bookkeeper, complained of pain in the right side of the neck and right shoulder with weakness in the right upper extremity for a period of fifteen months and pain, numbness, and stiffness in both hands for about three months. She said she "could

TABLE 1

Case No.	Peripheral Neuritis ¹	Occipital Head-aches ^{1a}	Other Head and Neck Symptoms ⁷	Pseudo-angina ¹	Treatment*	X-Ray Findings in Spine
1	+					Marked osteoarthritic changes in cervical area and right acromioclavicular joint
2	+	+			X-ray 1,200 r units**	Thinning of disk C 4-5, C 5-6
3	+			+	X-ray 600 r units	Moderate proliferative changes in cervical spine. Transverse processes C 7 somewhat prominent
4	+				Thiamin chloride	Minimal changes
5	+	+		+	X-ray 600 r units	Thinning of disk C 5-6
6	+	+	Sore throat on right side only. Pain in right side of face	+		None (on two examinations made nine months apart)
7	+	+	Pain in ear		X-ray 2,000 r units	Considerable osteoarthritis in cervicodorsal spine
8	+	+			X-ray 1,800 r units	Minimal changes in cervical spine
9	+			+	X-ray 600 r units	Mild osteoarthritic changes in cervical spine
10	+					None
11	+					Moderate scoliosis in cervicodorsal spine with extension transverse processes C 7
12	+				X-ray 600 r units	Minimal change in cervical spine in 1935. Six years later showed proliferative changes and variations in width of disks
13	+					Scattered hypertrophic changes about cervical bodies
14	+				X-ray 600 r units	Thinning of disks C 5-6, C 6-7 with considerable spur formation, upper cervical segments negative
15	+				X-ray 600 r units	Productive changes C 5-6
16	+	Right side only	"Film" over right eye		X-ray 300 r units	Low-grade osteoarthritis cervical spine with moderate changes in C 1
17	+	+			X-ray 1,200 r units	Calcified left subdeltoid. Thinning of disk C 1-2. Bridging dorsal spine
18	+				X-ray 1,200 r units	Calcified right subdeltoid. Thinning of disks, especially C 5-6, C 6-7, with some lipping of C 6-7
19	None	+	Buzzing left ear for ten minutes on arising			Moderately advanced osteoarthritis. Thinning of disks on posterior aspect vertebral bodies, especially C 4, 5, 6
20	+					Minimal changes
21	+					Marked arthritis cervical spine—narrowed disks and irregular articular surfaces
22	+					Marked thinning of disks C 4-7 with advanced spurring
23	+					Minimal hypertrophic changes at anterior margins of midcervical bodies
24	+				X-ray 800 r units	Slight thinning of disks C 5-6, C 6-7
25	+	+	"Pain in my goiter region"	+		None
26	+	Right side only				Considerable enlargement left transverse process C 7
27	+	+				Minimal hypertrophic changes in cervical spine
28	+			+		Marked changes in D 6-12 with thinning of disk D 8-9
29	+	+				Marked osteoarthritic changes C 7 and D 1
30	+					Almost complete ankylosis C 4-5, with marked thinning of that disk. Joint spaces between articular facets are considerably reduced, and spurs protrude into foramina bilaterally at level of disk C 6-7. Small calcium deposits in subacromial bursae
31	+	+				Osteoarthritis involving articular facets
32	+				X-ray 600 r units	Some hypertrophic changes C 6 and 7
33	+		"Goiter trouble"	+	Thomas Collar, Vitamin B ₁ by muscle	Thinning of disk C 4-5
34	+				X-ray 1,300 r units, Vitamin B ₁ by muscle	Thinning of disks C 5-6, C 6-7
35	+			+		Osteoarthritis of lower cervical vertebrae
36	+				X-ray 716 r units	Thinning of disk C 6-7, with moderately advanced osteoarthritis of bodies of C 5, 6, 7
37	+					Narrowing of space C 6-7, with bilateral cervical ribs
38	+	+	"Sinus trouble" not relieved by fifteen treatments			None
39	+	+				Minimal changes in cervical spine
40	+	+				Moderate osteoarthritic changes in cervical spine

* All patients received physical therapy, large doses of salicylates, and 9 Brewers yeast tablets per day.

scarcely turn the pages in her ledger." Physical examination showed a stiffness of the neck muscles with crepitus in the cervical spine, left shoulder, and knees. An x-ray of the cervical spine revealed a narrowing of the disk between C 4-5 with marked lipping of the adjacent vertebrae. A complete laboratory work-up showed essentially normal findings. At subsequent visits the patient described herself as "subject to rheumatic attacks which never seemed to be the same" and stated that she had never had swelling or redness of any particular joint. She volunteered that, even before receiving physical therapy, her pains would entirely disappear at times, only to come back full force after two or three days. She remarked several times: "When my neck gets bad, my right arm gets worse, too; but most of my trouble is with my right thumb and I have to rub my arms to get life back into them."

An orthopedist who was called in consultation did not think that pressure in this patient's neck could be a likely cause of her symptoms. He favored a diagnosis of "neuritis" and recommended a high vitamin B diet. A second consultant suggested a Thomas collar to the cervical spine, which the patient had made but promptly refused to wear. No mention was made, by either one, of the possibility of benefit from deep x-ray therapy. Therapy consisted of: (1) infrared, diathermy, and salicylates (all of which gave her temporary benefit); (2) 850 mg. thiamin chloride by muscle in a period of five weeks without benefit. *Nota bene*, massage of some tender nodules at the side of the spinal column on one occasion only served to increase the pain.

A thorough study of the cervical spine is especially important, as pointed out by Hanflig,²⁰ not only in those cases which do not have enough local pathology in the shoulder to account for the symptoms but also in those patients who, although they apparently have sufficient reason for their shoulder complaints, do not respond when specific treatment is directed to the shoulder (viz., as in those cases with a calcified subdeltoid bursitis not helped by x-ray therapy).

As to the site of predilection, Elliott¹¹ describes this disease as being "selective," since it seems, as a rule, to "specialize" in the lower cervical spine. Wagenthals⁴⁷ says that although the process may be localized to other areas or, at times, be general throughout the entire vertebral column his cases showed a marked preference for the lower cervical area. Just why this is so is not definitely known. Other authors mention it,^{42,43} and Morton²³ went so far as to state that he had never seen a case in the dorsal or lumbar area. On the other hand, Parker and Adson³³ reported that only 1 out of 8 cases of vertebral osteoarthritis seen

at the Mayo Clinic in the years 1922 to 1924 was in the cervical spine. It appears, moreover, that the symptoms may be present on one or both sides of the body. In one series the author¹⁷ found them to be preponderantly bilateral, while other students of this condition^{42,47} describe the pain in their cases as generally unilateral. It has frequently been pointed out¹⁸ that this syndrome may at times result in symptoms which in many ways simulate those produced by visceral disease and that this may help to explain some of the unsatisfactory results obtained at operation.

Careful studies have been made⁴² in an attempt to correlate the incidence of this disease with age, sex, racial groupings, and the general state of health, but no direct relationship could be found. Moreover, neither the body weight, nor the length of the neck, nor the particular constitutional body type of the patient seems to play any part in the causation of this disorder. Some authors⁴⁷ feel that trauma in one form or other may be a factor—either acute injury or chronic trauma from the repeated motions of the neck over a period of years—while others⁴³ maintain that it is faulty posture that causes these repeated injuries to the intervertebral disks. Elliott¹¹ condemns the intestinal tract as the chief source of this disorder and states that "deficient elimination is a prominent—if not the sole—cause of this type of arthritis."

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TABLE 1

Case No.	Periph- eral Neuritis ²⁹	Occipital Head- aches ¹⁶	Other Head and Neck Symptoms ¹	Pseudo- angina ³	Treatment*	X-Ray Findings in Spine
1	+					Marked osteoarthritic changes in cervical area and right acromioclavicular joint
2	+	+				Thinning of disk C 4-5, C 5-6
3	+			+	X-ray 1,200 r units** X-ray 600 r units	Moderate proliferative changes in cervical spine. Transverse processes C 7 somewhat prominent
4	+					Minimal changes
5	+	+		+	Thiamin chloride X-ray 600 r units	Thinning of disk C 5-6
6	+	+	Sore throat on right side only. Pain in right side of face	+		None (on two examinations made nine months apart)
7	+	+	Pain in ear		X-ray 2,000 r units	Considerable osteoarthritis in cervicodorsal spine
8	+	+				Minimal changes in cervical spine
9	+			+	X-ray 1,800 r units X-ray 600 r units	Mild osteoarthritic changes in cervical spine
10	+					None
11	+					Moderate scoliosis in cervicodorsal spine with extension transverse processes C 7
12	+				X-ray 600 r units	Minimal change in cervical spine in 1935. Six years later showed proliferative changes and variations in width of disks
13	+					Scattered hypertrophic changes about cervical bodies
14	+				X-ray 600 r units	Thinning of disks C 5-6, C 6-7 with considerable spur formation, upper cervical segments negative
15	+					Productive changes C 5-6
16	+	Right side only	"Film" over right eye		X-ray 600 r units X-ray 300 r units	Low-grade osteoarthritis cervical spine with moderate changes in C 1
17	+	+			X-ray 1,200 r units	Calcified left subdeltoid. Thinning of disk C 1-2. Bridging dorsal spine
18	+				X-ray 1,200 r units	Calcified right subdeltoid. Thinning of disks, especially C 5-6, C 6-7, with some tipping of C 6-7
19	None	+	Buzzing left ear for ten minutes on arising			Moderately advanced osteoarthritis. Thinning of disks on posterior aspect vertebral bodies, especially C 4, 5, 6
20	+					Minimal changes
21	+					Marked arthritis cervical spine—narrowed disks and irregular articular surfaces
22	+					Marked thinning of disks C 4-7 with advanced spurring
23	+					Minimal hypertrophic changes at anterior margins of midcervical bodies
24	+					Slight thinning of disks C 5-6, C 6-7
25	+	+	"Pain in my goiter region"	+	X-ray 800 r units	None
26	+	Right side only				Considerable enlargement left transverse process C 7
27	+	+				Minimal hypertrophic changes in cervical spine
28	+			+		Marked changes in D 6-12 with thinning of disk D 8-9
29	+	+				Marked osteoarthritic changes C 7 and D 1
30	+					Almost complete ankylosis C 4-5, with marked thinning of that disk. Joint spaces between articular facets are considerably reduced, and spurs protrude into foramina bilaterally at level of disk C 6-7. Small calcium deposits in subacromial bursae
31	+	+				Osteoarthritis involving articular facets
32	+				X-ray 600 r units	Some hypertrophic changes C 6 and 7
33	+		"Goiter trouble"	+	Thomas Collar, Vitamin B ₁ by muscle	Thinning of disk C 4-5
34	+				X-ray 1,300 r units, Vitamin B ₁ by muscle	Thinning of disks C 5-6, C 6-7
35	+			+		Osteoarthritis of lower cervical vertebrae
36	+				X-ray 716 r units	Thinning of disk C 6-7, with moderately advanced osteoarthritis of bodies of C 5, 6, 7
37	+					Narrowing of space C 6-7, with bilateral cervical ribs
38	+	+	"Sinus trouble" not relieved by fifteen treatments			None
39	+	+				Minimal changes in cervical spine
40	+	+				Moderate osteoarthritic changes in cervical spine

* All patients received physical therapy, large doses of salicylates, and 9 Brewers yeast tablets per day.

** All x-ray therapy given in air.

Case Reports

MYXOFIBROMA OF THE JEJUNUM

TIMOTHY F. X. SULLIVAN, M.D., F.A.C.S., and
WILLIAM LAWRENCE CORCORAN, M.D., F.A.C.S., New York City

THE myxofibroma is extremely rare, particularly one occurring in the jejunum. A tumor of the small intestine ceases to be only of academic interest when, by its very intrinsic displacement, the lumen of the bowel is subjected to a complete obstruction. Its practical importance must then be realized and surgical resection and anastomosis performed without delay.

Neoplasms of the small bowel are rarely found in the course of abdominal surgery. Malignant tumors of the small intestine are rare indeed, and benign tumors are found more often in the large bowel than in the small intestine. Small intestinal carcinoma, while uncommon, is found more frequently than benign tumor change.

Pathology

The structural change may be subserous or submucous, and the growth is usually directed toward the lumen, because the mucosa offers less resistance than the muscular coat of the bowel. The size is variable. They may be single or multiple, at times assuming a condition of multiple polyposis. The tumor may be sessile or pedunculated, the submucous rarely taking on the latter form. The wall of the intestine is composed of a variety of tissues—viz., the outer peritoneal coat of the endothelium, unstriated muscle, areolar tissue, and the mucous membrane, with vascular supply, from where, with the exception of the outer endothelial coat, growths may arise. The term myxofibroma implies the presence of relative proportions of muscle and fibrous tissue.

Case Report

C. McC, a white widowed woman, aged 44, had been ill at home for a three-day period when first seen on September 4, 1940. The chief complaint was as follows: onset of sudden nausea, repeated attacks of vomiting, and pain throughout the abdomen, particularly within the right upper quadrant. The abdomen was somewhat distended, and tenderness was present about both costochondral areas, presumably due to the strain of repeated vomiting. A well-established right median scar with no evidence of hernia was existent, and a palpable mass without tenderness was determined just below and lateral to this area. The past history revealed that an operation had been performed during June, 1913, at which time an acutely inflamed appendix had been removed and a co-existing right ovarian cyst was resected from that particular gland. Subsequent to this operation the patient experienced a chronic condition of constipation and gaseous accumulation, which always responded to vary-

ing degrees of catharsis and the frequent use of the enema. The probability of postoperative adhesions developing within the right lower quadrant was accepted as the causative factor. A gastrointestinal x-ray series was made during November, 1938, and no particular diagnostic findings were made from the preoperative review of those films that were available. Apart from the stubborn constipation and its associate phases of discomfort, the patient enjoyed a good measure of health and maintained her occupation as secretary to an important executive.

Procedure.—After twelve hours of observation and treatment at home, during which time a satisfactory result with enemas was obtained, vomiting was controlled by sedation, and the fundamental picture of abdominal distention, discomfort, and tenderness persisted, the patient agreed to hospitalization where the desired clinical, laboratory, x-ray, and surgical diagnostic procedures could be made and recorded.

Decision was reached whereby an attempt to relieve the now existing obstipation was made by the utilization of a molasses and milk enema. The result of this procedure was characterized by a copious fecal return along with considerable flatus. However, subsequent physical examination gave evidence of no particular progress. The surgical signs of an obstruction continued and were soon intensified when an attack of vomiting occurred, the character of the emitted material being duodenal in nature. A flat x-ray plate (Fig. 1) was now ready in order to ascertain a fluid level, and the report was as follows:

X-ray Examination Made on September 6: Abdomen.—Flat films of the abdomen show distention of the coils of small intestine with gas and fluid. Fluid levels are present in the erect position. The large intestine is collapsed. The findings indicate an obstruction of the jejunum or ileum.

Procedure.—The laboratory reports were as follows: The urinalysis was normal. The blood was counted at the time of admission and on several subsequent occasions, and the findings were as follows: The red cell count and hemoglobin were normal and at no time revealed any impairment. The original white blood count was a leukocytosis, which showed a definite increase subsequent to the bowel's response to the molasses and milk enema.

Diagnostic Summation.—The persistence of abdominal distention, and tenderness (after a copious result from the molasses and milk enema). The recurrence of nausea and vomiting, the latter becoming duodenal in character. The flat x-ray film of the abdomen disclosing the coils of small intestine to be distended with gas and fluid. The large intestine appearing as collapsed. The presence of a fluid level in the erect position. These findings indicating a roentgen diagnosis of an obstruction of the jejunum or

Case presentation, Clinicopathological Society of Saint Clare's Hospital, November 11, 1940.

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Workmen's Compensation

December 6, 1941

The following resolution has been received from the Industrial Board in regard to physicians' fees for attendance before the Department of Labor.

"Resolved, That under the Fee Schedule for attendance of physicians at hearings, adopted by the Industrial Board at its meeting on June 7, 1940, the Board believes that if a physician's appearance for the purpose of testifying at a hearing is required, he shall receive the \$25 or \$10 fee, according to his designation, as provided in the Schedule. If, at the same session, he is required to testify in another case, whether before the same Referee or not, he shall be entitled to receive an additional \$12.50 or \$5.00 fee, according to his designation. If the same physician is required to attend a hearing for the purpose of testifying on the same day, but at the afternoon session, he shall be entitled to receive a larger fee, even though he had appeared at a hearing in the morning session, and an additional \$12.50 or \$5.00 fee, according to his designation, for any additional case in which he may be required to testify at the same session, even though such case may come before the same Referee."

DAVID J. KALISKI, M.D., *Director*

THE MEDICAL MEN ARE NEVER SATISFIED

"The last fifty years is the inclusive period of so-called modern medicine," said Nathan B. Van Etten, past-president of the American Medical Association. "Modern medicine is the end result of the evolution of individual efforts to cure the sick, restore them to functional usefulness and to enlist community support in the prevention of disease."

Just how well this work has been done is found in statistics covering disease and mortality in all sections of this country. In New York, for instance, infant mortality was 250 per 1,000 live births in 1886—it was 34 in 1940. Diphtheria claimed 3,000 New York victims each year in 1866—in 1940 it claimed but ten. And where, in upstate New York, the tuberculosis death rate was 74.6 per 100,000 of population in 1920, it was 36.3 in 1940—about half.

Look up the records of any of the great killers of the past and you'll find that similar progress has been made. And the bulk of the credit must go to private medicine. It is private medicine that works quietly, endlessly, and patiently in the laboratories and hospitals of America. It is private medicine that encourages further development of the various public health services. It is private medicine that has set as its goal the maximum possible extension of medical service to all the people.

In this country the level of public health is the highest ever attained in the civilized world. But even that great achievement doesn't satisfy the medical men. They mean to achieve far more in the years to come. That is the way the medical mind works. It never stands still. It must always look forward.—*Ellenville Press*

CONGENITAL HEART DISEASE MANIFESTING ARRHYTHMIA IN UTERO

NATHAN M. FENICHEL, M.D., and LAWRENCE KURZROK, M.D., Brooklyn

THE following case of congenital heart disease is reported because of the unusual arrhythmia heard before birth, and the interesting electrocardiographic findings obtained soon after birth.

Case Report

Mrs. R. R., aged 30, married eight years, had her last menstrual period on March 30, 1938. Physical examination in May revealed an early pregnancy and evidence of a mitral stenosis, probably of rheumatic etiology. Her history was negative for any possible previous rheumatic infection. During the first three months of her pregnancy there occurred slight vaginal staining, which was corrected by the removal of a cervical polyp. Blood Wassermann test was negative, and urine examinations were repeatedly normal.

On December 5, 1938, one month before her delivery, a routine examination disclosed an unusual irregularity of the fetal heart sounds. They were heard distinctly, but the rhythm consisted of a series of 3 regular beats followed by a long pause almost equal in time to that of 2 regular beats. During this long interruption after each regular sequence, not even faint sounds could be heard. The arrhythmia persisted throughout the entire last month of pregnancy with slight variations. Sometimes the pause occurred after every second or fourth beat or even disappeared, so that short runs of complete regularity were occasionally manifested by the fetal heart. She had no complaints or evidence of any toxemia and felt well throughout the prenatal period.

On January 7, 1939, the patient, after a short spontaneous labor of four hours during which the cervix was lacerated, delivered a 6-pound 15-ounce boy. The infant's color at birth was good, and his breathing was established without any difficulty. On auscultation, however, his heart exhibited the same arrhythmia that was heard intrauterine—runs of 2 to 4 beats interrupted by long pauses. In the hospital the baby took nourishment well and appeared normal. An electrocardiogram was taken on the fifth day after birth by Dr. Anna E. Wagner of the Pediatric Service. This record (Fig. 1) showed right axis deviation and groups of 2 to 3 regular beats followed by intervals which were just less than the time required for two regular beats. In leads II and III especially, inverted P waves could be seen occurring just after the last of each regular sequence of QRS-T complexes. Evidently, no ventricular contractions followed these early diastolic auricular extrasystoles, since the ventricles were still in a refractory phase.

The electrocardiogram may be interpreted as demonstrating blocked auricular extrasystoles, a condition not frequently seen. From the slightly negative aberrant P waves recorded in lead I, one may hypothesize an irritable focus in the myocardium of the left auricle as the source of these blocked extrasystoles.¹

After the baby's discharge from the hospital his progress was essentially normal. At the end of a year the baby weighed 19 pounds and appeared well. His color was always good, he took nourishment satisfactorily, and dentition was not delayed. The arrhythmia continued with frequent variations throughout this year. On some occasions the heart was completely regular, at other times only occasional extrasystoles were heard, and once a typical trigeminy was observed. When the baby was two months old, a harsh grating murmur accompanied by a palpable thrill first became evident and became more pronounced as the child grew. This murmur appeared in the systolic phase only and exhibited its maximum intensity over the pulmonic area and over the sternum in the third interspace.

By the end of the year a prominent precordial bulge was apparent and the heart percussed enlarged to the left. An x-ray of the chest (Fig. 2) taken when the child was nine months showed enlargement of the heart especially to the left. The aorta appeared markedly widened and in dextraposition to the rest of the heart, and the lung fields revealed exaggerated vascular markings. The lateral plates did not elicit any more pertinent information.

While the exact nature of the congenital heart lesion cannot be diagnosed in this case, the information at hand seems to point to some arteriovenous shunt defect, such as a patent septal lesion, associated with a dextraposition of the aorta.

A review of the literature reveals other instances where an intrauterine abnormality of the fetal heart sounds was heard, aside from its common occurrence in acute fetal distress. The first such case was reported in 1854 by Massman who detected a fetal heart murmur and was then able to predict congenital heart disease in the

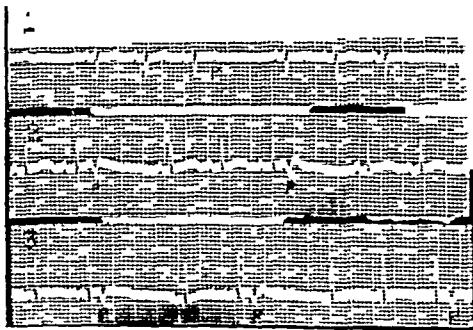


FIG. 1. Electrocardiogram taken on the fifth day after birth showing right axis deviation and inverted aberrant P waves in all three leads. These auricular extrasystoles occur early in ventricular diastole and are, therefore, blocked or unable to excite the ventricles.

From the Medical and Obstetrical Services of the Jewish Hospital, Brooklyn

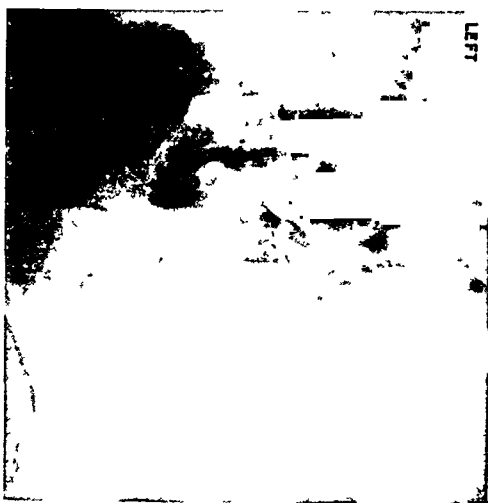


FIG. 1. Photograph of x-ray flat plate showing distended small intestine and collapsed large bowel, with fluid level.

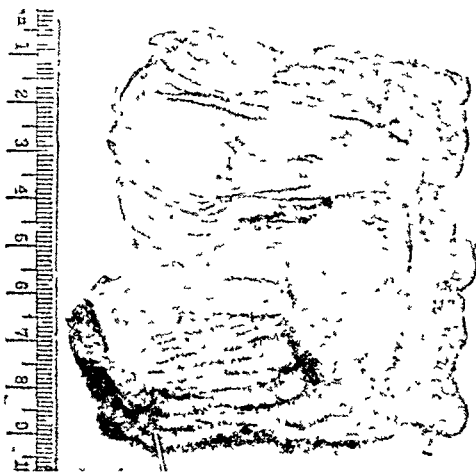


FIG. 2. Photograph of gross specimen showing intrinsic tumor within opened jejunum.

ileum. The increasing leukocytosis. The history of postoperative gastrointestinal dysfunction, and chronic constipation. The palpation of a mass just below and lateral to a thin existing right median scar.

Such an aggregate of facts led to the performing of a laparotomy on September 6, 1940, at 8:40 p.m., the preoperative diagnosis being intestinal obstruction (due to the crystallization of peritoneal adhesions).

Operative Procedure.—The existing right paramedian scar tissue was excised, and the incision was carried down to the peritoneum, which was then opened. Several of the existing prominent formations of adhesions that seemed to be the cause of trouble were ligated and divided. These

bands appeared partially to constrict the cecum and one loop of small intestine as they established themselves between the inner aspect of the abdominal wall and caput coli; however, there was no complete compression of the intestine. The small intestine was now traced from the cecum upwards and, after completing the survey of the ileum and well along the structure of the jejunum, there was found a smooth rounded mass within the lumen of the bowel, blocking off the small intestine. This area was delivered for surface procedure, and a segment was clamped well above and below the intrinsic tumor. After the required vascular ligation of the mesentery, about 6 inches of jejunum and its contained pathology were resected by means of the actual cautery. The respective ends of the jejunum were then turned in and closed by a double row of sutures, and a lateral anastomosis was made. The repaired jejunum was returned within the abdomen and the wound was repaired in layers. The immediate postoperative condition was good.

Pathologic Report.—The pathologic report on September 6, 1940, was as follows: "Nature of specimen—intestinal resection and mass."

Gross Description: "The specimen consists of the small intestine, which measures 9.5 cm. The serosa has an area of dimpling with a bluish discoloration. The tumor mass protrudes into the lumen of the small intestine, the intrinsic displacement being complete, resulting in obstruction. The tumor mass measures 3.5 by 2 cm. possessing a definite stalk attachment, the base being ulcerated and surrounded with a shaggy ground of fine tissue. An incised section reveals a distinct capsule with a homogeneous raised surface."

Microscopic Description: "The prepared section of the tumor mass demonstrates a mucosa which is ulcerated off and largely replaced by polymorphonuclear and lymphocytic cells. Within the surrounding inflammatory zone there is a fibrous tissue change. The stroma is arranged around a central core of blood vessels and a denser fibrosis. Other sections are made up of nothing more than a loose connective tissue with spindle cells and some fibroblasts. Again, other sections reveal a cell with a stellate nucleus from which originate strands enclosing clear spaces. While some of the areas possessing fibrous and myxomatous tissue change indicate signs of activity and while there are many new blood vessels, almost resembling granulation tissue, this tumor is classified as benign."

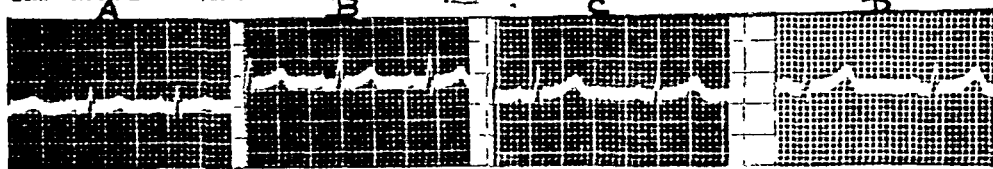
Pathologic Diagnosis: "Myxofibroma* of the jejunum."

Postoperative Career.—The postoperative career was characterized by the desired reaction following careful intra-abdominal manipulation, with the exception of an incident of alarm, occurring on the tenth postoperative day, when a pulmonary infarct developed. This complication, with the manifestation of acute pain in the lower left thorax, cyanosis, and pulse and respiration increase, subsided after seventy-two hours' duration, and the patient improved rapidly. Efficient nursing, the Wagensteen gastric syphon, and the utilization of vitamin therapy contributed to complete recovery.

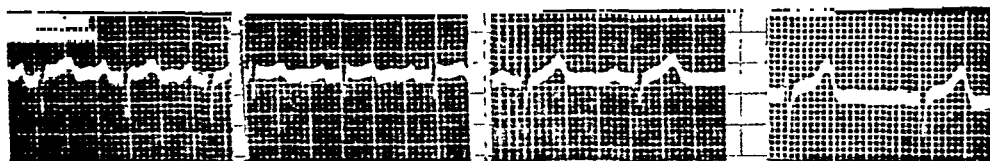
* This is an extremely rare tumor, oftentimes grows to an immense size, and occasionally may be multiple

Each Vertical Line = 1/25 Second

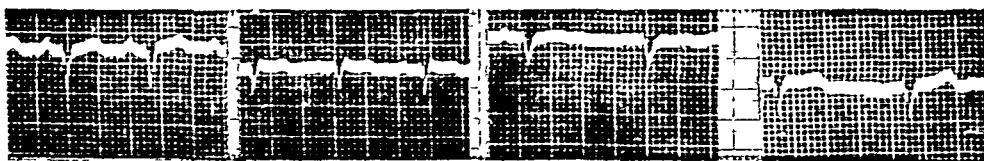
Each Horizontal Line = 1 Millimeter



Lead No. 1—Between Right and Left Arms



Lead No. 2—Between Right Arm and Left Leg



Lead No. 3—Between Left Arm and Left Leg

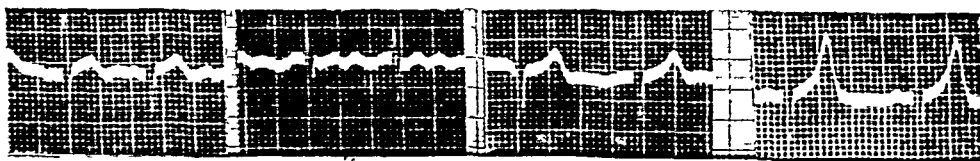


FIG. 1. Four-lead electrocardiograms obtained in patient J. C. A: Segments taken on day of admission. B: Segments taken on the following day. C: Segments taken on the third day after admission. D: Segments taken nine days after admission when he had fully recovered.

positive. He was observed for a few hours and then sent home.

He returned two days later stating that on the day following the injection of the tetanus antitoxin he had felt dizzy, was nauseated, and had vomited several times. These symptoms persisted and, therefore, he returned. He was admitted to the ward.

Physical examination revealed an acutely ill, flushed, and somewhat disoriented young man. The temperature was 103 F.; the pulse, 120 and of small volume; the respirations, 24. His speech was thick. The right eye showed a healing laceration below the eyelid. The tongue was swollen and dry and had a yellowish-white urticaria-like lesion at its tip. The uvula was moderately edematous. The lungs were clear, the heart rate was 120, and the rhythm was regular; there were no murmurs. The blood pressure could not be obtained. An examination of the abdomen showed no abnormalities.

There was a generalized adenopathy. A diffuse erythematous rash covered the face, neck, arms, and upper part of the trunk.

During the next day the mental confusion lessened and the blood pressure reading became obtainable, reaching a level of 84/54. The further clinical course was one of gradual improvement. On the fifth day of his hospital stay the temperature became normal, the blood pressure was 100/50, and the skin rash disappeared completely.

The medication given on the ward was as follows:

March 23, 1940 4 P.M. Immediately after admission 5 minims of adrenalin were given subcutaneously. Shortly afterward, 1,000 cc. of 5 per cent glucose in nor-

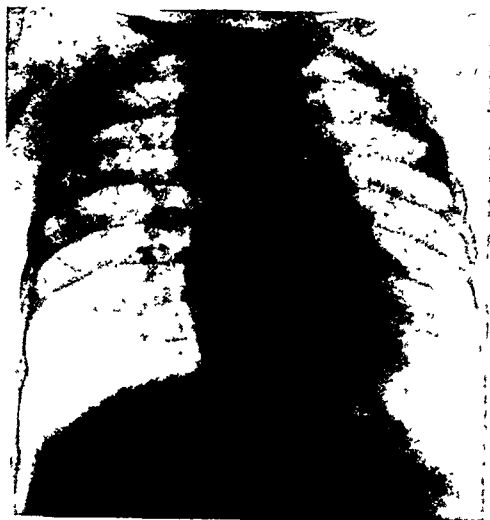


FIG. 2. Anterior-posterior radiograph at 9 months of age showing pronounced enlargement of the heart to the left. The aorta appears markedly widened and transposed toward the right. The lung fields reveal exaggerated vascular markings.

offspring. Hyman,² in 1930, reported 6 cases in which premature contractions of the fetal heart were heard or recorded by the phonocardiogram. In all 6 cases the arrhythmia disappeared a few days after birth, and the hearts were then found to be normal. Dipple,³ in 1934, reported a case where the fetus exhibited premature contractions and an accompanying murmur localizable to the fetal heart, so that he was able to prognosticate congenital heart disease before delivery. Roberts,⁴ in 1938, reported a case in which the fetal

heart manifested a soft whispering murmur and frequent extrasystoles. After delivery by cesarean section, the infant was cyanotic, and an examination disclosed a systolic murmur and many extrasystoles. Death occurred in forty-two hours, and on autopsy a patent interatrial septum and bicuspid aortic valve were found. The mother, interestingly enough, also suffered from congenital heart disease. Burnham,⁵ in 1939, reported a case in which the fetal heart after the seventh month of gravidity showed an irregularity consisting of a premature contraction after every 3 to 5 regular beats. Six days after an uneventful delivery the arrhythmia disappeared and the infant's heart appeared normal.

Sinus arrhythmia also is quite commonly observed in the fetal heart and apparently is of no diagnostic significance.

Summary

From a review of our case and the cases reported in the literature, it seems that a prolonged intrauterine fetal heart arrhythmia may occur not only in a heart with a congenital defect but also in an otherwise normal heart. In either instance the abnormal rhythm is usually due to extrasystoles arising from an irritable focus in the auricular myocardium. If, in addition to the irregularity, a fetal heart murmur can be detected, congenital heart disease may be prognosticated.

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ELECTROCARDIOGRAPHIC CHANGES IN A CASE OF SERUM SICKNESS DUE TO TETANUS ANTITOXIN

THEODORE T. FOX, M.D., and CHARLES R. MESSELOFF, M.D., New York City

IN 1937 Clark and Kaplan¹ demonstrated structural changes in the hearts of 2 patients who had received large doses of anti-pneumococcus serum. These changes consisted of (a) proliferation of histiocytes in the mural and valvular endocardium and in the intima of the aorta, pulmonary arteries, and coronary arteries; and (b) evidence of stimulation of the interstitial mesenchymal tissue of the myocardium. In a later report Clark² offered further proof that morphologic alteration may be associated with serum disease. The amount of serum employed was apparently of no importance.

In the present communication we are reporting a case of serum sickness which showed acute and transient electrocardiographic changes. These changes assume particular significance in view of the structural alterations described.

Case Report

J. C., a white boy, aged 18, was admitted to the emergency room of the Hospital for Joint Diseases, on March 23, 1940, with a history of having sustained an injury to the right eye two days previously. Examination showed a laceration under the right eye. This was treated and a prophylactic dose of tetanus antitoxin was given. The latter was administered in divided doses over a period of two hours because the preliminary skin test was markedly

Submitted January, 1941.
From the Medical Service of Dr. A. A. Epstein, Hospital for Joint Diseases.

Special Article

BEWARE OF *ALWAYS* AND *NEVER*!

DONALD B. ARMSTRONG, M.D., New York City

LET us look for a moment at the relation of health education to the tuberculosis eradication movement.

The history of health education is characterized by a steady expanding utility, by a most helpful permeation of many phases of public health, and also by occasional detours along less productive or sometimes futile channels.

Basic, for instance, is the work of health education in implementing and vitalizing the medical supervision of school children; conversely, the emphasis on certain health factors has been exaggerated, such as teeth brushing in the past and probably, in the present, the alleged gross inadequacy of vitamin intake on the part of our population at large.

In the tuberculosis field, since the establishment of the National Tuberculosis Association and even earlier, health education has played an increasingly vital part in the detection, treatment, and prevention of this disease, augmenting sanitary and epidemiologic approaches to tuberculosis control. Now, with the more precise and productive use of instruments of precision in diagnosis and treatment, health education has an important task in creating a sound and sympathetic understanding on the part of the public regarding such devices and procedures as the tuberculin test, the fluoroscope, chest surgery, and the x-ray.

At present, health education seems to be tempted to concentrate upon the x-ray, which is logical enough in view of its outstanding importance when properly employed in tuberculosis detection and in the management of the patient. But in "going to town" with the x-ray, health education might, to advantage, exercise some caution. Otherwise, there is a real danger of throwing the whole tuberculosis control picture somewhat out of focus and of leading ultimately to the necessity for a costly readjustment in public understanding. Overemphasis on one factor tends always to induce an unwarranted depreciation in the value of other items in the picture.

Let us not forget that there are four equally

essential and basic approaches to the diagnosis of tuberculosis: (1) the family and clinical history of the patient; (2) his medical (and particularly chest) examination by a competent physician, with sputum examination when possible; (3) fluoroscopy; and (4) x-ray, with its reading. We should be on guard against overemphasis on items 3 and 4, and we should also not throw the first two approaches out the window. As long as we have private medical practice in this country, the private practitioner, either in his office or in the public clinic, together with salaried medical staffs, must play his part in tuberculosis control, must be carried along in the program, and must not be completely subordinated to the technician. Those responsible for medical education realize this. It is, however, apt to be unrecognized or forgotten by other workers in the public health field, mostly active on or near the periphery and making their approach through somewhat tangential channels, such as that of the professional educator, the statistician, the chemist, etc.

In the current enthusiasm for the x-ray, let us not forget that it is merely a shadow—that it needs interpretation in the light of the history and of a great variety of symptoms and signs. The doctor of medicine must be kept a part of the team. The program cannot be mechanical or technical altogether.

Yet, with disconcerting frequency at the present time, we hear speakers, often without medical training, address audiences composed of more or less uninformed laymen and willing but uncritical physicians, announcing that the whole job is now almost altogether one that depends on mass x-raying of the population. Mass x-raying of the population has its place in case finding and is guardedly advocated by progressive health departments. It may be appropriate for younger groups (with or without the tuberculin test) or for older groups as well. With a well-organized follow-up it may be in many places, at least in part, desirable and practicable, but it is by no means the whole job. It can be much less productive than the direct pursuit of contacts; the examination of selected age, sex,

		mal saline were given intravenously very slowly, over a period of five hours.
	10 P.M.	Ephedrine sulfate, $\frac{3}{4}$ grain
March 26, 1940	1 A.M.	Ephedrine sulfate, $\frac{3}{4}$ grain orally
March 27, 1940	12 M.	Epinephrine 1-1,000 in oil 1 cc. subcutaneously
	2 P.M.	Ephedrine sulfate, $\frac{3}{4}$ grain orally
	9 P.M.	Ephedrine sulfate, $\frac{3}{4}$ grain orally
March 28, 1940	10 A.M.	Ephedrine sulfate, $\frac{3}{4}$ grain orally
	2 P.M.	Ephedrine sulfate, $\frac{3}{4}$ grain orally
	6 P.M.	Ephedrine sulfate, $\frac{3}{4}$ grain orally
March 29, 1940	10 A.M.	Ephedrine sulfate, $\frac{3}{4}$ grain orally
	2 P.M.	Ephedrine sulfate, $\frac{3}{4}$ grain orally

Serial electrocardiograms were taken during this time. The first tracing (Fig. 1A), taken immediately upon admission (forty-eight hours following the injection of tetanus antitoxin), showed no evidence of myocardial damage. However, when compared with the tracing taken during the period of recovery, this initial electrocardiogram must be regarded as abnormal for this individual. The electrocardiograms taken on the following day (Fig. 1B) showed a definite lowering of the QRS complex in the standard leads and a slight elevation of the ST segments in leads II and III. The ST changes were not present in the tracing taken on the following day (Fig. 1C). The tracing taken on March 29, April 1, and April 2 showed a gradual increase in the voltage of the ventricular complex in the standard leads (Fig. 1D).

Comment

It is reasonable to postulate that the electrocardiographic abnormalities described above are attributable to myocardial changes of the nature noted by Clark and Kaplan. The two other possible causative factors—the administration of epinephrine and the presence of shock—can be readily eliminated. Epinephrine when given in large doses may give rise to transient changes in the electrocardiogram.³ However, our patient received only a small dose on admission, and in spite of the readministration of the drug on a subsequent occasion, as well as the administration of daily doses of ephedrine sulfate, the electrocardiogram returned to normal. Furthermore, the patient's sensitivity to adrenalin was tested during the convalescent period. A control tracing was taken and he was given 0.7 cc. of adrenalin subcutaneously. Twenty minutes later another electrocardiogram was taken, and the only change that was noted was an increase of the heart rate from 82 to 100.

The importance of the shock factor in the present case can also be readily eliminated, since the maximum electrocardiographic changes occurred during the period when the patient had already recovered from the shock.

Summary

A case of serum sickness is presented with abnormal electrocardiographic findings. It is believed that the structural changes demonstrated in the hearts of serum sickness cases may be responsible for these changes. More frequent electrocardiographic studies in individuals with serum sickness are needed to establish the validity of our assumption.

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TREATMENT OF COMMON DISEASES

A course on the treatment of common diseases, arranged by Dr. Clayton W. Greene, professor of medicine, Buffalo University School of Medicine, for the Fulton County Medical Society, will be given on Friday evenings at 9:00 P.M., alternately at Hotel Johnstown, Johnstown, New York, and Eccentric Club, Gloversville, New York. The program follows:

February 6, "Results of Modern Methods in the Treatment of Anemia," by Dr. Francis D. Leopold, assistant professor of medicine and therapeutics, Buffalo University School of Medicine.

February 13, "The Management of Arthritis, Acute and Chronic," by Dr. L. Maxwell Lockie, professor of therapeutics, Buffalo University School of Medicine.

February 20, "Practical Application of Hor-

monal Therapy," by Dr. Ivan Hekimian, assistant professor of medicine, Buffalo University School of Medicine.

February 27, "The Treatment of Common Skin Lesions," by Dr. Earl D. Osborne, professor of dermatology and syphilology, Buffalo University School of Medicine.

March 6, "The Use of Sulfanilamide and Drugs of That Group," by Dr. Clayton W. Greene.

March 13, "What Do We Know About Vitamins," by Dr. David K. Miller, professor of medicine, Buffalo University School of Medicine.

The lecture on "The Use of Sulfanilamide and Drugs of That Group" is a cooperative endeavor between the New York State Department of Health and the Medical Society of the State of New York.

Diagnosis

CLINICOPATHOLOGIC CONFERENCES

DEPARTMENTS OF MEDICINE AND PATHOLOGY, NEW YORK POST-GRADUATE
MEDICAL SCHOOL AND HOSPITAL, COLUMBIA UNIVERSITY

Date: November 18, 1941

Presiding: Dr. Irving S. Wright

History

DR. MAURICE BRUGER: A 61-year-old white woman was admitted to the hospital complaining of severe precordial pain which had been present for eight hours. At times this pain was located in the epigastrium. On examination, three hours after the onset of pain, her physician noted that her extremities were cold and clammy. Her pulse at that time was slow and of poor quality. The blood pressure could not be determined. She was given a hypodermic injection of morphine ($\frac{1}{2}$ grain) which relieved the pain but resulted in frequent bouts of vomiting. On admission to the wards, she complained of nausea and occasional twinges of pain in the epigastrium.

No previous history of hypertension, precordial pain, dyspnea, orthopnea, or ankle edema could be obtained. An intolerance to fatty foods had been present for five years. One brother died of "heart trouble" at 35 years of age.

On admission to the hospital her temperature was 100 F. (37.8 C.); pulse, 90 per minute; and respiration, 20 per minute. The blood pressure was now 126/86 mm. of Hg. Physical examination revealed an obese, plethoric woman in no distress other than occasional episodes of retching. There were many small nonpulsating telangiectases over the face and neck. The pupils were irregular and reacted to accommodation but not to light. Examination of the nose, mouth, neck, breasts, and chest yielded no significant findings. The heart was not enlarged to percussion; the heart sounds were of good quality. The first sound over the apex was split, and the second aortic sound equaled the second pulmonic in intensity. No murmurs were heard. The abdomen was soft, no masses were felt, and tenderness could not be elicited. There was pulsation of the dorsalis pedis and anterior tibial arteries on both sides. The biceps, triceps, and radial reflexes were present and equal on both sides. Patellar

reflexes were barely obtainable. The abdominal and achilles reflexes were absent bilaterally. Position sense was intact. Vibratory sense was absent over the knees and ankles but was present in the upper extremities.

On the morning following admission she felt perfectly well. Five minutes later, she was seized with a severe pain over the precordium which was followed by a generalized convulsion that lasted fifteen seconds. During this convulsive seizure, the heart stopped beating but respiration continued for several minutes. Death occurred before any medication could be given.

Laboratory Data. — Urinalysis: specific gravity 1.020, faint trace of protein, no sugar, no acetone, an occasional red blood cell, 10 to 12 white blood cells per high-power field, 1 to 3 finely granular and occasional hyaline casts per low-power field. An electrocardiogram taken shortly after admission was within normal limits. Blood urea nitrogen was 35.0 mg. per hundred cubic centimeters, and sugar was 100 mg. per hundred cubic centimeters. The sedimentation rate (Westergren) was 20 mm. per hour; the blood Wassermann was 4 plus; while the Kahn precipitation test was 3 plus.

Discussion

DR. ROBERT McGRATH: It seems to me there are four conditions to be considered as the possible cause of death in this patient. These are: (1) dissecting aneurysm of the aorta, (2) coronary thrombosis, (3) pulmonary embolism, and (4) coronary embolism. The last two are rather improbable. I mention coronary embolism only because of a recent report¹ of 3 cases originating from a mural thrombus attached to an atherosclerotic plaque. These cases also had an associated syphilitic aortitis. This is a rare complication, and I think it can be excluded in this case because of its rarity and the lack of clinical evidence. Pulmonary embolism can be eliminated for several reasons: factors that produce this condition, such as operative procedures, and venous thrombosis were not

or occupational groups; or other more pointed and economical approaches.

Those who are innocent of the intricacies of clinical medicine and who consequently seem to be tempted to speak with universal authority as experts in all medical specialties can readily overemphasize this factor before an indiscriminating audience. Such a "contribution" to misinformation is not dissimilar to many "science-editor" or doctor-of-philosophy interpretations of medicine in the lay press and current periodical field. There we regularly see pseudoscientific writers "sounding off" in a premature fashion regarding alleged startling advances having to do with poliomyelitis research, virus vaccine therapy, pneumococcus immunization, etc. All of this produces a costly imbalance in the sociomedical structure designed for ultimate control of preventable disease.

Such misinterpretation or overemphasis seems also to be colored by a tendency on the part of these nonclinical health guides to see things, to quote Elbert Hubbard, "as black or white when they are after all but different shades of slaty gray." An unfortunate moralistic tinge seems to vitiate their judgments as to medical and sanitary problems. On these and other questions they seem to train with the decerebrated adrenalin boys. With regard to the x-ray and tuberculosis, for instance, we are told, with agitated table-pounding, that conditions now "cry to high heaven" for the use of the x-ray—a measure that alone will solve the tuberculosis problem in the next decade or two! Tuberculosis societies are suggesting placards and car cards that read: "Have you a health problem—have an x-ray" or "Tell your doctor you want an x-ray." In reality, what conditions call for is a more adequate implementation of the doctor in office or clinic, making possible his full utilization, with intelligence and balance, of the x-ray with other measures, each one of which facilitates, but does not completely simplify, the handling of the tuberculosis problem.

Of course, these exaggerated approaches serve a useful purpose at times. They give us our often unattainable but advantageously motivating slogans. Yet, if overdone, they are apt to lead to public confusion and subsequent letdown.

It may be true that all movements need some stimulation from those unhandicapped by the intricacies and the possibly incapacitat-

ing uncertainties of medicine—such as the lay propagandist or emotional adder of numbers in the medical field. Certainly, they have a reassuring positiveness, an arousing self-confidence, and a conviction of their own rightness not afforded those with a more intimate and complete picture of the complicated clinicopathologic aspects of such a problem as tuberculosis. Indeed, there are those lay executives at work in the medical field, such as our long-time cooperators in the New York State Charities Aid Association, whose non-presumptuous yet able collaboration with the state public health authorities and the State Medical Society has contributed most substantially to the growing conquest of not only tuberculosis but pneumonia, diphtheria, and other problems as well. These lay organizers, promoters, and educators, exercising restrained judgment and initiative, have known how to stimulate medical activity in public health and when to seek medical advice and guidance on things medical.

But such a stimulant must be administered or taken in reasonable and carefully prescribed doses. It must be remembered of the nonclinical mind that it may reach unwarranted conclusions in this field because of ignorance of essential details or lack of awareness of gaps in scientific knowledge. This, no doubt, often accounts for the sometimes hazardous and unwarranted self-assurance. It has been often said that if the average well-trained doctor of medicine could be as sure of any *one thing in medicine* as some of his non-medical or statistical colleagues are regarding *everything in medicine* he would be a most fortunate doctor indeed.

Doctors make poor social promoters. Education of a promotional character is essential to a social or public health program, as is so well illustrated by the New York State experience cited above. Without it we might accomplish little or nothing in community organization. Yet, the promoter must always be protected against his own tendency to grab a conspicuous and new idea and run wild with it. It should always be remembered that the nonmedical man in the medical field has never, after all, heard his professor of medicine orient his class at the beginning of his lecture series by admonishing the embryo physicians that "there are two words that do not appear in the vocabulary of medicine—*never* and *always*."

About 50 per cent of the deaths are due to rupture into the pericardial sac, and the next most common point of rupture is into the left pleural cavity. In certain cases healing takes place,³ and the patients die at a later date of another dissection or from some other cause. The usual course, however, is a spread of the dissecting process with eventual death.

In attempting to decide between dissecting aneurysm with rupture into the pericardial sac and coronary thrombosis, certain points may be listed as being consistent with either diagnosis. These include the negative past history regarding cardiovascular symptoms, the type of pain and associated shock, the fever, and the elevated sedimentation rate. The negative electrocardiogram is not against coronary thrombosis because positive findings are often absent in the first few days of the illness; nor is it against dissecting aneurysm because in this condition electrocardiographic changes are frequently absent. The fact that the heart sounds were of good quality and that the blood pressure was 126/86 is against coronary thrombosis because these findings would be unusual after an attack as severe as this one. These latter findings are perfectly consistent with the diagnosis of dissecting aneurysm. The severe pain immediately preceding the convulsive seizure and the sudden and violent death indicate further dissection with rupture into the pericardial sac producing cardiac tamponade. In making a diagnosis of dissecting aneurysm in this case, it is made in the absence of certain findings, some of which I should like to have found in the history but which are not necessary if the dissection involved only the ascending aorta. These findings are the changing location of the pain, changes in the peripheral circulation, and absence of visceral and lower spinal cord symptoms. I do not consider the elevated blood urea nitrogen or the abnormalities of the urine to be related to the dissecting process. The neurologic signs described are due in my opinion to neurosyphilis of the tabetic type.

The only point remaining is the possibility of the presence of syphilitic aortitis in this case. There are no physical signs of aortitis, such as the presence of a systolic murmur at the aortic area, accentuation of the aortic second sound, or pulsation in the suprasternal notch. However, its presence seems possible because the aorta is frequently affected by syphilis and often without clinical manifestations. About 10 per cent of the reported

cases of dissecting aneurysm had syphilitic aortitis, but the part played in the dissection by syphilis is usually minimized. Aortitis tends rather to sacculization with rupture or, uncommonly, to direct rupture, both of which rarely cause the type of pain described in this case.

Dr. McGrath's Diagnoses

1. Dissecting aneurysm of the aorta with rupture into the pericardial sac.

2. Central nervous system syphilis, tabetic type.

3. Possible syphilitic aortitis.

DR. C. B. WEINBERG: Six months prior to death she had been complaining of pain, nausea, and vomiting nearly every morning.

DR. MCGRATH: What was her blood pressure six months prior to death?

DR. WEINBERG: I did not have the opportunity to examine her.

DR. WRIGHT: Dr. McGrath, would that alter your diagnosis?

DR. MCGRATH: No.

DR. WRIGHT: How long do you think that a patient can live with a dissecting aneurysm?

DR. MCGRATH: Some will repair the dissection and die from other causes. Certain patients have been known to live many months or years after a dissection.

Pathology

DR. MAURICE N. RICHTER: The most important findings are in the aorta. There is syphilitic aortitis with slight aneurysmal dilatation of the arch and marked longitudinal wrinkling of the arch and thoracic portions. There is a ragged tear in the aortic wall 1.5 cm. above the aortic ring, extending in a longitudinal direction and involving all coats. There are about 450 cc. of blood in the pericardial cavity. The heart is not enlarged, and there are no valvular lesions and only slight changes in the coronary arteries.

Two unrelated findings are a small chromophobe adenoma of the hypophysis and the presence of small foci of a peculiar type of fat resembling embryonal fat cells in the bone marrow.

Pathologic Diagnoses

Syphilis of aorta.

Aneurysm of ascending aorta.

Rupture of aortic aneurysm.

Hemopericardium.

Chromophobe adenoma of hypophysis.

DR. WRIGHT: Do you think that the

present; there was no evidence of heart disease which could produce a mural thrombus in the right side of the heart; the physical signs and electrocardiographic findings of pulmonary embolism also were lacking.

I believe the diagnosis in this case lies between dissecting aneurysm of the aorta and coronary thrombosis. A review of the clinical picture of coronary thrombosis appears unnecessary but, because of the renewed interest in dissecting aortic aneurysms, a summary of this condition from the clinical standpoint is pertinent. In the first place, it occurs most frequently between the ages of 40 and 60, but younger people occasionally are victims, as in 1 case² of a young man of 19. It is more frequent in men than in women up to the age of 70, but after that age the incidence is about equal. Hypertension is usually but not invariably present. The onset of pain frequently follows severe exertion. As a rule, the pain is severe and sudden in onset rather than the type commonly seen in coronary thrombosis in which the pain may gradually increase in severity.

The ascending aorta is the commonest site of dissection, and in this situation the pain is precordial and sometimes epigastric. When the aortic arch is the site of dissection, the pain is felt high in the chest; when the dissection involves the descending aorta, the pain is interscapular; and, when the abdominal aorta is involved, pain is located in the lower part of the back and abdomen. As the dissecting process extends along the aorta in either one or both directions, the location of the pain changes correspondingly and this is one of the characteristic findings noted in dissecting aneurysms. Shock is severe and at times there is loss of consciousness, but the latter is not so frequent as it is generally said to be. Nausea and vomiting are common; moderate fever is the rule. Changes in the peripheral circulation develop when the dissection involves certain main branches of the aorta. These are common in the legs, the usual findings being diminished or absent arterial pulsations with a corresponding drop in skin temperature rather than gangrene.

Changes in the circulation of the arms are rather rare as is involvement of the blood supply to the head. However, hemiplegia and convulsive seizures have occurred following interference with the circulation through one of the common carotid arteries. Visceral symptoms follow obstruction of the circulation through the visceral branches of the aorta. Examples are abdominal pain, blood passed by

rectum, hematuria, and diminished renal function. Certain neurologic symptoms develop when intercostal and lumbar arteries are severed or obstructed. These arteries convey in part blood to the lower spinal cord, but an adjustment to the loss of this portion of the circulation is soon made so that the symptoms are usually temporary and varying in nature. Weakness or paralysis of the legs diminished or absent reflexes, and sensory changes are the most common findings. Murmurs occasionally develop in the course of dissecting aneurysm. Their location depends upon the portion of the aorta affected. Systolic murmurs are sometimes heard over the aorta both anteriorly and posteriorly and, occasionally, a diastolic murmur may be detected at the aortic area or along the left sternal border. The latter murmur has two possible causes. One is the production of an incompetent aortic valve by extension of the dissecting process to involve the base of the valve, and the other depends upon the flow of blood through a rent in the intima of the ascending portion of the aorta.

Electrocardiographic changes found in dissecting aneurysm are of two types. The direct type results from a nonfatal small rupture into the pericardial sac with hemo-pericardium or from extension of the dissection into one or both coronary arteries. The changes due to hemo-pericardium usually consist of negative T waves in all leads, while those resulting from reduction in the coronary circulation resemble the changes seen in coronary thrombosis. The indirect type of electrocardiographic changes is less distinct and results from the effect of shock on an already impaired coronary circulation. This is often present in patients who develop a dissecting aneurysm.

X-ray examination is an important diagnostic measure but is rarely done because the patient is so seriously ill. When the dissection involves a portion that can be visualized, x-ray will frequently show an abnormality of the aorta and a series of daily pictures will reveal a progressive enlargement of the aorta. Leukocytosis is common within a few hours. Increased sedimentation rate develops in a day or two, and somewhat later an elevated icteric index and a secondary anemia may be found.

Except during shock or when dissection directly affects the heart, as mentioned under the discussion of electrocardiographic changes, the heart is not altered. Recovery from shock in the nonfatal cases is accompanied by a return of the blood pressure to its usual level.

Abstracts of Proceedings

of the

NEW YORK PATHOLOGICAL SOCIETY

REGULAR MEETING, NOVEMBER 27, 1941

JEAN OLIVER, *President*

JOHN M. PEARCE, *Secretary*

Uterine Tumor of Endometrial Stroma Type. Dr. Chester R. Brown and Dr. Amour F. Liber

There exists a primary neoplasm of the uterus consisting of tissue strongly resembling, not identical with, the endometrial stroma and apparently growing from it. Three different interpretations and names have been assigned to this type of growth: (1) Typical endometrial sarcoma (Meyer, R.: *Handbuch der Speziellen pathologischen Anatomie*, vol. II/1, 1930); (2) adenomyoma without glands (Casler: *Tr. Am. Gynec. Soc.* 44: 68 1919); (3) endolymphatic fibromyositis (Frank: *Am. J. Cancer* 16: 1326, 1932). To judge from the small number of cases reported, the neoplasm in question is extremely rare. No adequate information is available as to the life history, prognosis, and therapeutic indications, although the tumor is morphologically extremely distinctive and readily identified.

Case Report

A 46-year-old woman was admitted to the gynecologic division of Lincoln Hospital. She complained of menstrual pain of three years' duration, metrorrhagia and dysuria for three months and, finally, of the appearance of a suprapubic mass increasing rapidly in size. The finding of a corpus uteri diffusely enlarged to the size of a grapefruit led to the diagnosis of myomatous uterus. Subtotal hysterectomy and unilateral removal of the adnexa were performed.

Gross examination showed diffuse and symmetric thickening of the uterine wall with no discrete tumor nodules. Many small polypi projected into the cavity of the corpus. In the left tube and round ligament were seen several small nodules.

On microscopic examination throughout the endometrium were columns of tissue resembling in every respect the stroma of the endometrium and forming an anastomosing network. In several places this newly formed tissue was continuous with the distinctly hy-

perplastic stroma of the endometrium. High-power magnifications showed the neoplastic tissue to be made up of small, rounded, slightly elongated or occasionally branching cells containing a small amount of cytoplasm surrounding a nucleus with a distinct, thin, nuclear membrane and diffuse, finely granular chromatin. Each cell occupied a mesh of a fine network of argyrophilic reticulin. Numerous small blood vessels were formed directly by the tumor tissue. Here and there throughout the neoplasm were large empty spaces lined only with flattened endothelium, into which rounded masses of tumor projected. These were, in all probability, lymphatic vessels. The tube and round ligament contained round masses of the neoplasm entirely within greatly dilated vessels, some of which contained blood and appeared to be veins while others were apparently lymphatics.

The patient was followed for three years after operation, after which she was lost sight of. She received radiotherapy in another institution. When last seen she had a large, and still growing, mass in the right lower quadrant of the abdomen.

This case illustrates the rare type of growth which apparently arises from the stroma of the endometrium and faithfully reproduces its structure. In spite of the lack of histologic atypism, the tumor has a certain tendency to invasion of the uterus and, in this case, of the adnexa. While the exact oncologic classification of the neoplasm is still open to question, the present case shows that for practical purposes it must be regarded as having some of the features of malignancy.

Discussion

DR. NICHOLAS M. ALTER: I should like to report 2 fatal cases, 1 of which died four days after operation. At the time of operation a hysterectomy was performed for bleeding.

adenoma of the pituitary had anything to do with the inequality of the pupils?

DR. RICHTER: The adenoma is too small to have caused pressure symptoms.

DR. WRIGHT: What do you think was the immediate cause of death—the pressure on the heart brought about by the hemorrhage or the loss of blood?

DR. RICHTER: I think that it was caused by the rise of intrapericardial pressure resulting from the hemorrhage.

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Editorial Committee

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Prize Essays

THE Merrit H. Cash Prize and the Lucien Howe Prize will be open for competition at the next Annual Meeting of the Medical Society of the State of New York, April 27, 1942, in New York City.

The Lucien Howe Prize of \$100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The Merrit H. Cash Prize of \$100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York, who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the Prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the Committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win the prize automatically becomes the property of the Medical Society of the State of New York "to be published as it may direct."

All essays must be presented not later than February 1, 1942, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 292 Madison Avenue, New York.

CHAS. GORDON HEYD, M.D., *Chairman*
Committee on Prize Essays

NATIONAL SOCIAL HYGIENE DAY

Wednesday, February 4, will be the Sixth National Social Hygiene Day, to be observed throughout the country. The purpose of this annual event is to maintain and strengthen public interest in the fight against syphilis and gonorrhea and conditions favoring their spread. That fight was never more important than it is in this time of national emergency, when the health and welfare of young men being called up for military service is giving all of us concern.

rhea and conditions favoring their spread. That fight was never more important than it is in this time of national emergency, when the health and welfare of young men being called up for military service is giving all of us concern.

ribbon, occasionally only on one edge. Cross and longitudinal striations occurred only in parts of the ribbon, the remainder of which was granular. Meyer interpreted this as regressive phenomena with striations breaking down into granules or "schollen." Within a single muscle bundle he saw "myoblasts," transition forms, normal muscle fibers, and no evidence that the myoblasts invaded the bundle from without. Finally, incipient changes in the direction of "myoblasts," such as small areas of granular cytoplasm, were seen in otherwise normal muscle fibers near the "growth."

This case is significant because of its age, and Meyer believed that it refuted the theory that striations appear as progressive differentiation in myoblasts. Abrikossoff's cases were advanced, and it was impossible to tell in which direction the change was taking place (Meyer). Meyer believed that diffuse granular swelling of the cells of the tumor plus occasional large cells explained the size of the nodule, even though cell multiplication was slight, and that various combinations of degeneration, regeneration, hyperplasia, and tumor formation existed in some cases of myoblastoma.

This author studied a tumor developing in the rectus abdominis, six years after ventral fixation of the uterus, in a case of endometriosis. There was marked regenerative hyperplasia of the striated muscle with "myoblasts" showing fatty degeneration and "apparent

multiplication of the nuclei which could easily be mistaken for cellular proliferation . . . the multinucleate structures reproduce themselves but do not differentiate into striated fibers."

Klinge, in 1928, postulated a dysontogenetic origin for myoblastoma arising in locations normally devoid of striated muscle (skin, mucosa). In these tumors the granular cells do not resemble any normal embryonal stage of muscle development, a further reason for doubting the maturation of myoblasts to muscle fibers in the lingual nodules (Meyer).

The tumor may exist for long periods. Klemperer's series included a tumor of the groin existent for twenty years and another existent in the right calf for twelve years. Only 3 recurrences have been recorded. Seventy-seven cases were reported in 1934 (Grey and Grunnfeld); 34 had tumors in the tongue.

Klemperer stated that cells of myoblastoma "may suggest the diagnosis of xanthoma and differential diagnosis rests upon the presence or absence of fat within the tumor cells."

Fat is present in certain instances of degenerating voluntary muscle and possibly in some cases of "myoblastoma" which are derived from degenerating voluntary muscle. Granular myoblastomas do not form striated fibers. The histologic picture may present various degrees of degeneration, regeneration, hyperplasia, and neoplastic-like changes. Recurrences represent further areas of degeneration and hyperplasia following repeated trauma, which was most likely in our case.

Infections with Organisms of the Salmonella Group. Dr. Siegbert Bornstein (by invitation).

The methods of isolation and identification of those organisms that formerly were referred to as the paratyphoid-enteritidis group and nowadays are called "salmonella" have been considerably improved during the past ten years. Consequently, the number of known separate species within this group has increased to almost a hundred, and our conceptions of the importance of these organisms for human pathology have undergone certain changes. A renewed study of salmonella infections, based on material examined by modern methods, seems necessary.

On 500 human salmonella infections in North America and Cuba serologic type determination was carried out. Thirty-two types were represented; fifteen of them can be considered as rare. The large number of known types makes it necessary to have many serums and type cultures at hand. This has pre-

vented the serologic type diagnosis from becoming widely used. Many laboratories still only recognize *Salmonella paratyphi A*, *S. paratyphi B* (Schottmueller), *Salmonella typhi murium* (= aertrycke), *S. cholerae suis* (= supestifer), and *Salmonella enteritidis* (Gaertner), and record the others as "unclassified salmonellas." This puts more than one-third of the causative organisms of human salmonella infections together with bacteria of questionable pathogenicity. A simplified method of recognizing the seventeen outstanding types will be suggested in a forthcoming publication.

Several types formerly reported to have been found in animals only were recently isolated from man. Multiple infections were observed. Hormaeche, in Montevideo, cultured from 1 child five different salmonella types.

Clinical information was available in 369 of

The case was clinically diagnosed as myoma of the uterus and, when I received the uterus, there was a uniform layer $\frac{1}{2}$ inch in thickness of gray-white, medullary type of tissue, sharply limited, which on microscopic section

seemed to be similar to Robert Meyer's description. At the time of operation it was reported that there were other pelvic masses.

In the other case there were extensive metastases to the ovary.

Myoblastoma of Striated Muscle with Brown and Dr. Amour F. Liber

There exists a benign tumor of striated muscle first mentioned by Heurteaux in 1881. Abrikossoff in 1926 designated the tumor "myoblastic myoma." An atypical tumor of this type was removed at Lincoln Hospital.

J. H., a 60-year-old white man, was admitted to Lincoln Hospital on July 4, 1941, for treatment of an "ulcer of the left leg." The present illness began in 1931 when the patient noticed a small, painless, marble-sized mass in the calf of the left leg gradually increasing in size. This was removed at a New York hospital in October, 1931. The mass was described "as 4 cm. in diameter, encapsulated, and rubbery." The microscopic diagnosis was spindle-cell sarcoma. The patient received heavy treatments with x-ray following excision. Three months later the wound "broke down" and a small ulcer formed locally.

In 1932, at another institution, a biopsy was performed and a diagnosis of spindle-cell sarcoma made. The patient was again treated with x-ray and radium and was discharged with a draining sinus, which has persisted since 1932 to the present admission. At the time of discharge in 1932, the patient stated that he felt a small nodule in the calf of the leg which has enlarged considerably in past years.

Clinical Examination.—"On the calf of the left leg was an area of heaped-up granulation tissue and a draining sinus in the center. This area measured 4 by 8 cm. The surrounding tissues were considerably indurated." Local excision of this area was performed. "The fascia covering the soleus muscle was infiltrated with what appears to be neoplastic tissue extending from just below the popliteal space to about 3 inches from the heel."

Marked scarring and induration of the fascia and muscle layer were noted extending down to the upper portion of the fibula. There was a foreign body $\frac{1}{2}$ inch in length found centrally located within the indurated areas which resembled a Radon seed.

About ten to fifteen small, firm pieces of tissue were submitted to the laboratory. Mi-

Lipid-Containing Cells. Dr. Chester R.

croscopic examination revealed areas of degenerating striated muscle adjacent to diffuse neoplastic-like cellular infiltrations. These cells showed finely granular cytoplasm with numerous monorefringent, coarse brown granules staining red with scharlach R, and one or more rounded, central, or eccentric nuclei. Transitional forms showing persistent striations and large rounded eosinophilic globules occurred between the degenerating muscle and granular tumor cells. The latter apparently were derived from degenerating striated fibers. Microscopic diagnosis was atypical granular-cell myoblastoma.

All authors agree that Abrikossoff's typical myoblasts stain negatively for fat. Considerable doubt exists regarding the pathogenesis of myoblastoma. There are three current opinions:

The tumor represents a regeneration of striated muscle following injury (especially in the tongue) with hyperplasia (Abrikossoff, Meyer) and neoplasia (Diss) of striated fibers. Abrikossoff described a tumor derived from voluntary muscle and composed of cells termed "myoblasts," polygonal-shaped, with granular cytoplasm, showing syncytial prolongations, some of which revealed striations. He compared this cell to the embryonal myoblast and believed that transitional forms showing striations were at times formed by the granular myoblasts. The tumors were found in various portions of the body and in situations where no striated muscle normally existed.

Meyer, in 1932, agreed that injury probably preceded tumor formation in some cases (in the tongue, especially) but stated that myoblasts showing striations were remnants of degenerating striated cells as were the granular forms. He denied that Abrikossoff's myoblasts could form new muscle fibers. A small growth in the tongue (Meyer) was first noted three weeks prior to removal. Although transitions were noted between striated and unstriated cells, these did not occur as in young muscle cells—i.e., as longitudinal striations in narrow elongated cells—but irregularly, in various portions of the muscular

ent strains of the same serologic salmonella type.

In conclusion, it can be said that seventeen salmonella types are of major importance for human pathology in this country. They should be generally recognized. It would be of diagnostic advantage to include a few of the more important salmonella antigens in the Widal reaction. There is no principal difference between paratyphoid fever in a stricter sense and other salmonella infections. Salmonella septicemia is not a rare disease; it has a high lethality. The salmonella carrier state involves danger of distribution as well as danger of septic infection for the carrier himself. Types that were only known to occur in animals were recently found in man. More research is necessary to establish a classification of salmonellas according to their pathogenicity and invasiveness.

Discussion

DR. AMOUR F. LIBER: I should like to ask Dr. Bornstein if a salmonella that is really nonpathogenic to man (if this may be assumed for any of these organisms) were ingested—as, for example, *Salmonella pullorum* ingested accidentally or by the eating of raw eggs which happen to be infested—would the organism still be viable in human feces? In a laboratory that is not equipped to do serologic tests but can only approximate the diagnosis by cultural methods, would it be necessary to take into consideration such a possibility?

DR. ALFRED ANGRIST: The statement that Dr. Bornstein made about the incidence and frequency of these organisms is borne out when atypical coli and the like are tracked down. In the last few years we have been successful in isolating at least six or more of these strains. The case that Dr. Bornstein referred to which came to autopsy with a typhi murium infection, if I am not mistaken, represents the only typhi murium case that came to autopsy with enteric lesions resembling those of typhoid fever. The resemblance to typhoid fever was rather striking, both in the gross and in the microscopic pictures. I should say, for the record, that the autopsy was not performed by myself but by Dr. Mitchell, and the organism was not isolated by myself but by our bacteriologist, Miss Wollov. In that sense, I am almost an ideal discussor, having had so little to do with the case. The findings on autopsy suggested a lesion resembling typhoid. The microscopic lesions showed all the characteristic cells with the large mononuclear cells

prominent throughout the lymphoid tissue, particularly in the ileum, in Peyer's patches, and in the colon, rather more extensively than is seen in the typhoid group of infections. The spleen was not markedly enlarged. That was another feature that Dr. Bornstein stressed.

The Peyer's patches were quite hemorrhagic. Some superficial ulcerations occurred, but the entire Peyer's patch was seldom ulcerated. There was no marked hyperplasia of the lymphoid tissue in the colon, but there were numerous small ulcerations and an occasional large ulcer.

Microscopically, the Peyer's patches were seen to be edematous and to contain the rather characteristic large mononuclear cells in great numbers. The patient had a peritonitis, and many of the cells in the fibrinopurulent exudate on the peritoneal surface were of this same type. The lymph nodes also were filled with the large mononuclear cells. The liver did not show any focal necrosis but did show extensive portal infiltration, and there was a diffuse myeloid reaction throughout.

We took the culture material and also some of the material from other strains of salmonella and injected nine guinea pigs and six mice and rats with the organism. We were quite fortunate, I think, in obtaining spectacular lesions. Most of the animals lived beyond the third or fourth day. Many of them lived for two weeks and then the batch was killed. The changes in the Peyer's patches in the guinea pigs consisted of extensive infiltration with exudate and abscesses filling some of the deep glands and the characteristic mononuclear type of infiltration. There was some typical focal necrosis throughout the liver. There was also a diffuse myeloid reaction in this tissue. The lymph nodes showed extensive focal necrosis and a prominent exudate of large mononuclear cells.

The clinical record of this case presented a young man, 21 years of age, admitted with a picture of acute appendicitis, with the story of having felt well until twenty-four hours before admission, when he had a sudden abdominal pain with nausea and vomiting. The pain settled in the right lower quadrant three to four hours before operation. Operation showed a normal appendix, but we noted a periappendiceal exudate on microscopic study. The ileum was found to be rather turgid and edematous. The patient developed peritonitis and lived three or four days postoperatively.

our cases. Thirty-four, or almost 10 per cent of our cultures, came from healthy persons, some known to be contacts, some not. Seventeen of these cultures belong in the serologic group C, whose main representative is *Salmonella cholerae suis*. *S. typhi murium*, which otherwise represents almost one-third of our material, was cultured from healthy persons only twice. We have observed carriers for periods up to eight months. They are not only a possible source of transmission but are in danger themselves, because occasionally the organisms enter the blood stream and may get a foothold at a site of lowered resistance.

In 49 of our cases the clinical disease was septicemia, which means that the outstanding feature was the presence of the bacteria in the blood or parenteral foci of infection. The diagnoses were septicemia, endocarditis, abscess, osteomyelitis, pleurisy, peritonitis, meningitis, and others. The organisms belonged thirty-five times in group C. Among the others were *S. enteritidis*, cultured from the spinal fluid in a case of fatal meningitis and *S. typhi murium* from an osteomyelitic focus and from the peritoneum of a child with peritonitis. There were 18 deaths in this group. Though no lethality statistics can be deduced from our material, the high incidence of septic infections, their high death rate, and the findings of salmonellas of groups other than C is noteworthy.

The histology of septic infections with salmonellas, so far as we know, is not in any way characteristic. In the case of a woman typhoid carrier who had a twisted ovarian cystoma, Dr. Plaut found the peritoneal layers entirely formed by typhoid cells. The specific histology in this case is no reason to see a fundamental difference between it and a salmonella peritonitis. The typhoid bacillus also causes changes without typical histology, like the so-called gastroenteritis typhosa, and purulent lesions and, on the other hand, various salmonellas can produce typhoid-like anatomic lesions.

Another group of diseases caused by salmonella infection is that of enteric fever, similar to the mitigated or atypical picture of typhoid fever often seen in children. Leukopenia and slow pulse rate may or may not be present; roseola and splenic enlargement seem to be mostly absent. Fifty-one such cases were in our series, 1 with *S. paratyphi A*, 25 with *S. paratyphi B*, and also 25 others. In this type of infection it is necessary to include a few of the more important salmonella

antigens in the Widal reaction, otherwise diagnoses may be missed or wrongly interpreted. Dr. Angrist has performed the autopsy on 1 case in this group, which was due to *S. typhi murium*, and found a typhoid-like anatomic picture. In all, there were 5 deaths in this group.

The remaining 235 patients had gastroenteritis, often called "food poisoning." All serologic groups of salmonella were found responsible for this disease, including *S. paratyphi B* in 12 of our cases. *S. typhi murium* occurring in 94 patients is outstanding in this group. Five of these patients died—2 of these were infants and in 2 cases the salmonella infection was only a contributing cause of death. The gastroenteritis cases, which are the most frequent but not the only clinical manifestation, have caused the belief that salmonella infections in general have a low mortality.

Though certain types of salmonella cause one or the other clinical picture more often, all may cause either septicemia or enteric fever or gastroenteritis. The same conditions may be due to the typhoid bacillus, which serologically belongs in the salmonella group and which causes anatomic and histologic changes that also may be caused by other salmonellas.

The same serologic type may be the cause of outbreaks in which the clinical manifestations are rather uniform, but in one outbreak it may be enteric fever, in the other, gastroenteritis. This makes one believe that there must be differences in the condition of strains of the same type which are responsible for the degree of pathogenicity and invasiveness. A classification of salmonellas in this respect is needed.

Sulfaguanidine is strongly bacteriostatic for *S. cholerae suis* and fairly so for *S. paratyphi A*, while other salmonellas are resistant to the drug. Differences in resistance against alpha-methyl-d-galacturonate were recently reported to exist between salmonellas by Steinhäus and Georgi. Such differences may not only give helpful hints for the treatment of infections but may possibly permit the formation of groups that fit the epidemiologic facts better than the serologic groups do.

Another classification whose relation to pathogenicity needs further study is the division of salmonella strains into those that we have called "potentially hemolytic" and others. The typhoid bacillus contains a sheep-hemolysin that can be liberated from the bacterial cell by bacteriophages. Such hemolysin may be present or absent in differ-

palpable in the left axilla; there was no other extension in the body. On January 31, 1940, the left breast was practically clear and the left axillary nodes were palpable. The blood count was practically unchanged. The blood chemistry was normal. There was no involvement of other organs. On February 14, 1940, there was spontaneous delivery of a healthy male infant, weighing 3,730 Gm. Three weeks after delivery the patient was readmitted with pain along the spinal column. An x-ray examination showed no bone or chest involvement. In March, four months after first being seen, the patient's temperature became septic, she had marked diaphoresis, and on March 21 she began to have black stools and nosebleed. She died April 3.

Autopsy revealed a large tumor mass about 20 cm. in diameter replacing the left breast. The right breast was normal. Both axillas, neck, and inguinal regions showed discrete lymph nodes from 0.5 to 2 cm. in diameter. In the retromediastinum there was a small mass of lymph nodes matted together measuring 5 by 3 by 1.5 cm. The heart and lungs were normal. In the retroperitoneum there were about ten lymph nodes from 1 to 4 cm. in diameter. The liver weighed 2,300 Gm. and showed circumscribed and diffuse white metastatic nodules. The spleen weighed 550 Gm., was diffuse and firm, and had no nodules. Each kidney weighed 250 Gm. and showed tumor nodules. The gastrointestinal tract showed several nodules 0.5 to 1 cm. in diameter in the lower ileum; one larger nodule had perforated to the mucosa. There was diffuse peritonitis, 300 cc. of exudate being present. Culture of the peritoneal fluid yielded *Bacillus coli*.

Microscopic examination of the breast revealed mixed types of lymphocytes in many areas still reticular in type with large pale nuclei. Silver stains showed similar variation from short thick bundles to fine fibrillar network. The veins contained tumor thrombi. Sections of the nodules in the liver and kidney showed mostly small dark lymphocytes of the differentiated type, silver stain showing fine network. The liver and kidney also showed diffuse infiltration as seen in leukemia. The lymph nodes from various sites showed variations from the large, pale cell, reticular type to the mixed variety with small dark cells.

Case 2.—Mrs. S. A., a 43-year-old white woman, P 3, complained of soreness and heaviness of the abdomen. The menstrual periods had been regular with a slight excess of flow. A laparotomy was performed six weeks

after the patient was first seen; she had lost 15 pounds in the past six weeks, had become weaker, and the skin had changed to a light lemon color. Operation showed bilateral encapsulated ovarian tumors, with multiple small nodules in the liver, omentum, and enlarged retroperitoneal nodes.

The gross specimen consisted of a right ovarian tumor measuring 14 by 11 by 10 cm. and a left ovarian tumor 10 by 6 by 6 cm., both encapsulated. On cross section they were similar, showing diffuse whitish gray growth with irregular areas of hemorrhage and necrosis.

Microscopic examination showed a new growth of small round cells almost syncytial, with large pale nuclei and with fibrous stroma around the capsule, otherwise, coarse reticular fibrils. The patient did not recover from the operation and died after fourteen days; autopsy was not performed.

The first case has clinical, gross, and microscopic evidence of generalized lymphosarcomatosis, which started in the left breast; the primary site in the breast showed reticular sarcoma. The metastasis was of blastomatous nature. Hematogenous nodules were, however, in most places of the mature lymphocytic type. Primary autochthonous development was observed in lymph nodes, particularly of the retromediastinum and retroperitoneum, which were also reticular in type.

The second case demonstrated a rare type of tumor of rapid malignancy which probably originated in the right ovary. The operative findings and the histologic picture are the only evidence, since no autopsy was performed. Subdivision of sarcomas of lymphoid tissue seems inadvisable, since various types from the most undifferentiated syncytial or reticular types to the mature lymphocytic type can be found in the same case and probably represent various stages of histogenesis.

Conclusions

Two cases of lymphosarcomas are presented with unusual primary sites, one in the breast and one in the ovary.

The primary site of both cases presented a typical histologic picture of reticular sarcoma.

The terminal condition of the breast case at autopsy was that of generalized lymphosarcomatosis, with hematogenous and lymphatic metastases in the viscera and lymph nodes consisting of lymphoblasts at various stages of differentiation. Some lymph nodes,

We recovered a typhi murium from the stool clinically and from a colonic ulcer, as well as a typhi murium and a hemolytic streptococcus from the peritoneum at autopsy. I think another unusual feature was that the patient had a low white count, about 2,100 on admission. Other than that, his picture was typical of appendicitis.

DR. LEO MEYER: During the summer of 1940 there was an epidemic of food poisoning in Brooklyn, during which 40 people were infected with the aertrycke bacillus, which was identified by the Health Department. They had eaten some smoked fish, and within six hours all had developed severe gastroenteritis. Two of these people died, and I autopsied 1 of them. This was a 40-year-old man who lived for four days. He had a green mucoid cast of his entire small intestine, which was adherent to Peyer's patches, and the curious thing was that histologic section through these showed a nonspecific ulceration and did not demonstrate the large mononuclear cells that Dr. Angrist showed. There were positive blood cultures, and cultures from the spleen and mesenteric nodes also revealed the same organism.

The second case was also in an adult who had eaten smoked fish from the same source two weeks previously, and this person had no evidence of ulceration of the intestinal tract. At postmortem the only diagnosis was bronchopneumonia with sepsis, and the organism was recovered from the blood stream.

I should like to ask Dr. Bornstein if he considers the aertrycke bacillus the same as typhi murium. Some of the textbooks separate them; some do not.

DR. ANGRIST: There is another point I wish to stress. In some work with pneumococcus and the effects of sulfapyridine, we have been rather unsuccessful in the determination of virulence, if that is any indication of what can be hoped for in a similar reaction with similar agents on the part of typhi murium. We have recovered both sulfapyridine-fast and nonfast strains both from autopsy material and from clinical material showing recovery. I do not know if that will carry over to the salmonella group.

DR. SIEGBERT BORNSTEIN: *Bacillus aertrycke* and *S. typhi murium* are synonymous.

To answer Dr. Liber's question, may I say I do not know what would happen to a man who swallows *Salmonella gallinarum*. I would not advise anyone to do it because he might become the first case of such an infection, as was that veterinarian who did not think that *Salmonella abortus equi* was pathogenic for man and was not careful. He got pretty sick. We know what happens to animals when they are fed with typhoid bacilli, which are not pathogenic for them—nothing happens, the organisms disappear quickly from the animal, and so, I suppose, would *S. gallinarum* from man.

I wish to thank Dr. Angrist for his support and to express my gratitude to the Society for the opportunity of presenting this work here, because even though these results are modest and unfinished, we think they are a challenge for a renewed study of salmonella infections based on the newer knowledge of the organisms. For such work our group needs the support of as many pathologists as possible.

Lymphosarcoma with Special Reference to the Original Site (Report of 2 cases (1) Breast and (2) Ovarian). Dr. Nicholas Alter.

The terminal condition of lymphosarcoma presents an almost impossible problem as to the original site. For such work two requirements are necessary: careful clinical observation, to trace the development of the pathology, and gross and histologic studies. Two cases are presented with special consideration to the above requirements.

Case 1.—Mrs. M. C., a 32-year-old white woman, was admitted in the twentieth week of her third pregnancy (November 3, 1939). The left breast was twice the size of the right; the mass was diffuse; there was tenderness over multiple skin nodules and particularly over the nipple. No axillary nodules were felt.

The right breast had been entirely negative. The patient was under observation for one month. Blood counts were negative. The white cells ranged from 7,000 to 8,000, and lymphocytes were never higher than 10 per cent. A biopsy of the skin nodule was diagnosed as sarcoma of the breast. This was followed by deep x-ray therapy. During this stay at the hospital there was no evidence of extension of the disease; the liver and spleen were not enlarged or palpable. There were no complaints relating to any of the organs. The patient was readmitted seven weeks after first being seen. The skin nodules had disappeared, but discrete lymph nodes were

Medical News

1942 Registration Certificates

Information has come from Dr. Joseph S. Lawrence, executive officer, that the Department of Education is doing its utmost to supply the physicians with their 1942 registration certificates but has been greatly delayed, first by the installation of new recording machines and now by a lack of clerical service.

Physicians who have applied for re-registration are assured that they will receive their certificates at an early date, and in the meantime they need not fear that they are violating the law by continuing their practice.

County News

Chautauqua County

Dr. George W. Cottis has been appointed chief of the emergency medical corps for Jamestown. Dr. Cottis, who is president-elect of the New York State Medical Society, was a Medical Corps Captain during the first World War and served overseas.

Chenango County

At the annual meeting of the county society held December 9 the following officers were elected for 1942: president, Dr. Ben Lee Dodge, Bainbridge; vice-president, Dr. William Perry Elliott, New Berlin; secretary and treasurer, Dr. John H. Stewart, Norwich; censor of three years, Dr. Leslie T. Kinney, Norwich; delegate to State Society, Dr. Archibald K. Benedict, Sherburne.

The committee chairmen are: legislative, Dr. Jaynes Mott Crumb, South Otselec; public health, Dr. Edwin Fred Gibson, Norwich; economics, Dr. Norman Campbell Lyster, Norwich; maternal welfare, Dr. Carl D. Meacham, Greene. Dr. Heinz Gunther Cohn, of Afton, was elected to membership.—*John H. Stewart, M.D., Secretary.*

Members of the Chenango County Medical Association were guests of the Rotary Club in Norwich on December 9. Dr. John H. Stewart introduced the following: Drs. J. C. Boland and R. M. Vincent, of Binghamton; Dr. Ben Lee Dodge, of Bainbridge; Dr. Archibald K. Benedict, of Sherburne; Dr. Jaynes Mott Crumb, of South Otselec; Dr. A. H. Evans, of Guilford; Drs. William D. Mayhew and M. G. Boname, of Oxford; Dr. Carl D. Meacham, of Greene; Drs. William Perry Elliott and E. A. Hammond, of New Berlin; Drs. M. H. Jacobi and L. T. Kinney, of Norwich.

Essex County

The following officers were elected at the annual meeting of the society held in Ticonderoga: president, Dr. Albert Leonard Hayes, Willsboro; vice-president, Dr. Samuel A. Volpert, Lake Placid; secretary-treasurer, Dr. James Edward Glavin, Port Henry; censors, Dr. John Sanders Miller, Jr., Crown Point, Dr. John Breen, Schroon Lake, Dr. Thomas J. Cummins, Mineville; delegate to the state convention, Dr.

Joseph A. Geis, Lake Placid; alternate, Dr. Thomas R. Cummins, Ticonderoga, delegate to Fourth District Branch, Dr. George Le Roy Knapp, Ticonderoga; alternate, Dr. Edwin C. Johnson, Newcomb.—*James E. Glavin, M.D., Secretary.*

Fulton County

Members of the county society, at a dinner meeting on December 17, paid tribute to Dr. John D. Vedder, of Johnstown, highly respected member and officer of the society for many years.

At the business meeting held during the evening the following new officers were elected: president, Dr. Arthur R. Wilsey, of Gloversville; vice-president, Dr. Herbert C. Hageman, of Gloversville; secretary, Dr. Louis Tremante, of Gloversville; treasurer, Dr. D. Malcolm McMartin, of Johnstown.

Dr. B. A. Winne, of Johnstown, retiring president, presided over the after-dinner program. Seated at the speakers' table were Drs. B. G. McKillip, Vedder, Winne, George Lenz, Tremante, and Arthur C. Hagedorn.

Genesee County

Dr. Raymond L. Warn, of Oakfield, will head the county society during the coming year. He was elected at a meeting at the Batavia Club on December 11 when Dr. Robert G. Wilson, of Batavia, became vice-president and Dr. Peter J. Di Natale, of Batavia, was renamed secretary and treasurer. Dr. Di Natale will also be the delegate to the New York State Medical Society Annual Meeting and Dr. Paul P. Welsh, of Le Roy, will be the alternate delegate.

The county medical society announced on December 16 a new schedule of fees for home and office calls, the change being attributed to "cost of medical materials and supplies and operating expenses increasing to a considerable degree."

The basic minimum charge for office attention is listed at \$2.00. The remainder of the new schedule is as follows: \$2.50 for home visit between the hours of 7:00 A.M. and 7:00 P.M., \$3.00 for a home call between 7:00 P.M. and midnight, and \$4.00 for a home call between midnight and 7:00 A.M.

An additional provision of 50 cents a mile for calls outside the city or village limits is made.

particularly in the retroperitoneum and retro-mediastinum, reproduced a reticular, undifferentiated type.

Clinical and histologic studies were necessary to ascertain the primary site showing the reticular type of growth. In the case of generalized lymphosarcomatosis, the lymph nodes

showed also autochthonous growth as in the original site.

In the hematogenous and lymphatic metastases, lymphosarcoma behaves as any other malignant growth.

The case of ovarian growth was entirely blastomatous in nature.

"What Must We Do to Improve the Health and Well-Being of the American People?"

The next few months will be vital ones in the life of our nation. Are the American people ready to meet the demands that will be made of them? Although our living standards are higher than those of any other country, there is yet much that needs to be done to make our people physically, mentally, and spiritually fit—fit to meet the challenge that Totalitarianism has hurled at the Democratic way of life. What must we do to improve the health and the social, economic, and spiritual well-being of the American people? Surely we must give thought at this time to our internal as well as to our external defenses.

In order to encourage you to express your thoughts on this important topic, Town Hall, through the generosity of a member of its Board of Trustees, Mr. Russell Maguire, offers \$1,000 in cash prizes for the best essay on the subject.

The prizes are divided into two sets: one set for the best essays written by any contestants 21 years and over, and the second set to go to the best essays by any contestants under 21 years. There will be two first prizes of \$250 each—one in each age group, two second prizes of \$100 each, two third prizes of \$50 each, and ten prizes of \$10 each in each age group. The two first-prize winners will also be given a trip to New York, or any other city from which "America's Town Meeting of the Air" may be originating at the time of the award, and will be presented on the broadcast.

Rules of the Contest

Please Read the Rules Carefully

1. Essays are not to exceed 1,000 words in length.
2. Envelopes containing essays must be postmarked not later than February 1, 1942.
3. All essays submitted become and remain the property of Town Hall, and any essay may be used in *Town Meeting* or in other publications at the discretion of Town Hall.
4. The essays will be judged by a committee of prominent Americans selected by the Board of Trustees of Town Hall. Their decisions will be final.
5. Essays will be judged on the basis of originality, practicality and clarity.
6. Everyone is eligible to participate in this contest in his own age group, except persons connected with Town Hall or the National Broadcasting Company and their immediate families.
7. Essays should be written on one side of paper—and typed if possible.
8. *Be sure to indicate on your essay whether you are entering the contest in the Adult or Youth Divisions.*
9. Winners will be announced as soon as possible after closing date of February 1, 1942.

Mail Essays to: ESSAY CONTEST EDITOR, Town Hall, 123 West 43rd Street, New York, N. Y.

Convalescent: "The touch of the nurse's hand cooled my fever instantly."

Doctor: "Yes, I heard the slap away down the hall."
—*The Canadian Doctor*

Auntie: "And what will you do, my little darling, when you grow up to be a great big girl?"

Child: "Reduce."

—*Selected*

At the afternoon session Dr. James S. Edlin, New York City, will be the chairman.

2:30—"The Role of the Radiologist in the Diagnosis of Diseases of the Chest," by Dr. Henry K. Taylor, Director Department of Radiology, Welfare Hospital, New York City.

Discussion opened by Dr. Bart R. Young, Associate Professor of Radiology, Temple University Medical School and Assistant Director, Department of Radiology, Temple University Hospital, Philadelphia, Pa.

4:00—Chest X-Ray Conference

4:30—Business Meeting

Onondaga County

Dr. George S. Reed was elected president of the Syracuse Academy of Medicine at the annual meeting on December 16 held at the University Club. Dr. J. G. Fred Hiss was chosen vice-president.

Also elected were Dr. George C. Goewey, secretary; Dr. William E. Pelow, treasurer; Dr. M. G. Brown, trustee for a three-year term; and Drs. Noble R. Chambers, Gerald C. Cooney, and Ferdinand J. Schoeneck, members of the council.

Orange County

Dr. William T. Lemmon, assistant professor of surgery at Jefferson Medical College Hospital and attending surgeon at Philadelphia General Hospital, spoke before the general staff meeting of Horton Memorial Hospital on December 17 on "Continuous Spinal Anesthesia." He showed slides and moving pictures in color of the technic and uses of this method of spinal anesthesia.

Queens County

On Tuesday, January 27, Dr. Frank H. Lahey will be the guest of honor of the society at a dinner at the Forest Hills Inn. At 8:00 p.m. the same evening, a kodachrome motion picture from the Lahey Clinic entitled "Subtotal Thyroidectomy" will be shown in the society's Auditorium. Following this, Dr. Lahey will speak on "Newer Developments in Surgery."

Rensselaer County

Dr. A. J. Hambrook has been appointed medical consultant in the Troy Department of Public Welfare, a new position provided for in the 1942 city budget.

Dr. Hambrook assumed the post on January 1. The new position is required by the state as a part of the new unified medical care program being installed in the city department. The new state policy by which local welfare agencies will set up and administer their own medical care programs, instead of operating under the centralized State Medical Manual, is the result of extended conferences between the State Department of Social Welfare and the State Medical Society.

Dr. Russell B. Scobie, of Newburgh, discussed "Medical Problems and Care of the Pre-School Child" at a meeting on December 18 at the Troy Health Center.

This was the first of a series of seminars in pediatrics held in connection with the newly

organized Child Health Service in rural Rensselaer County.

Present at the meeting were Dr. Elizabeth Gardener, director, Department of Maternity Infancy and Child Hygiene; Dr. Helen Owens, assistant director; and Dr. F. E. Coughlin, district state health officer. Dr. John Sibbald, president of the county society, presided. The discussion was opened by Dr. Arthur W. Benson, consultant pediatrician of the Child Health Service.

Saratoga County

The county society's committee on Medical Preparedness and Council of Defense, composed of Dr. W. H. Ordway, chairman, Dr. Carl R. Comstock, and Dr. Walter S. McClellan, have completed plans for protection of Saratoga County against any type of medical emergency it might encounter as a result of public disaster or war conditions, says a local newspaper.

County physicians have been classified according to their various specialties. From this survey a complete card index system has been evolved detailing all information concerning their activities and the zones selected for particular groups of medical men to cover in case of emergency.

Physicians in key localities are being selected to coordinate local efforts throughout the county and to dovetail with local defense councils.

Seneca County

At a meeting on December 11, Dr. Samuel Archer Munford, of Clifton Springs, talked on heart diseases and their treatments. Dr. Duane Walker was unable to be present and Dr. Baldwin presided. A discussion of group health and accident insurance for physicians was held and Mr. Lee, of Lodi, and Mr. Vaness, of Waterloo, expressed opinions on policies.

Suffolk County

In the current issue of the Suffolk County Medical Society *News Letter*, Dr. Frank Overton, Lt. Col., Inactive Reserve, U. S. Army, offers an article on "Preparedness for Defense in Suffolk County," in which he sets forth clearly the dangers to the people of Suffolk from raids by air and sea and the departments in the county that function for the protection of the people.

According to Dr. Overton, emergencies in times of peace or war are of two kinds: those affecting property and those affecting life and health. The recent countywide "blackout" was designed as a test of the efficiency of local means of dealing with both kinds of emergencies, especially those within the scope of the fire departments, hospitals, first-aid stations, and the medical profession.

Wayne County

A resolution unanimously requesting continuance of the Wayne County Health Camp was voted for presentation to the County Board of Supervisors by the county society at its annual meeting at Lyons in December.

Re-elected were the following officers: president, Dr. James L. Davis, Newark; first vice-president, Dr. George Pasco, Wolcott; second vice-president, Dr. Frank Wood, Lyons; secretary and treasurer, Dr. Thomas C. Hobbie, Sodus.

Herkimer County

Herkimer physicians have organized a disaster squad equipped to deal with any emergency.

With use of Steuben School granted by the Board of Education, the doctors met in December at the home of Dr. Floyd H. Moore, of Herkimer, local head of the Medical Preparedness Council, to arrange a permanent organization.

In order to make available a large number of nurses' aides, able to take over nontechnical duties from a comparatively small group of trained nurses, the doctors are cooperating with the Red Cross in teaching a regulation Red Cross nurses' aide course. Volunteering for this task were Drs. Frederick C. Devendorf, James W. Graves, Howard C. Murray, D. F. Aloisio, Albert L. Fagan, Byron G. Shults, James F. Gallo, Harold T. Golden, and Dr. Moore.

The county medical society has authorized purchase of a \$1,000 defense bond, its treasurer, Dr. Albert L. Fagan, has announced. The society, believed to be the oldest in the country, will buy the bond from funds already in its treasury.

Kings County

The pediatric section of the county society and the Academy of Medicine of Brooklyn will hold their January meeting on Monday, January 26, at 8:30 p.m. at the Kings County Medical Society, 1313 Bedford Avenue, Brooklyn. The following papers will be given: "Psychologic Problems of the Adolescent," by Dr. Harry Bakwin, of Manhattan; "Endocrine Problems of the Adolescent," by Dr. Jacob S. Beilly, of Brooklyn.—*H. S. Bikoff, M.D., Secretary.*

Livingston County

Dr. Kenneth T. Rowe, of Dansville, president of the county society, talked on "Common Problems of Urology" at a dinner meeting at Hotel LaDelfa in Mount Morris on December 10.

The first meeting, following organization of the Women's Auxiliary of the Livingston County Medical Society, also was held at Hotel LaDelfa, with Mrs. Kenneth Rowe, of Dansville, the president, in charge.

Montgomery County

At its annual meeting in December the county society voted to make certain payments to members who enter military service.

The schedule provides for paying single men \$75 per month; married men without children \$100 per month; and \$25 additional for each child under 18 years of age. The treasurer of the society is to assess and collect sufficient funds from the members of the group.

New York County

In cooperation with the Emergency Medical Service, the Medical Society of the County of New York and The New York Academy of Medicine have recently given a series of four lectures and demonstrations on advanced first aid.

At the first lecture Dr. George Baehr, director of the medical division of the National Office of Civilian Defense, spoke on the organization of emergency medical service. Captain Charles D. Scully, director of first-aid instruction for the New York Chapter of the American Red Cross, spoke on first-aid work.

The second lecture dealt with the emergency care and transportation of fractures, described by Dr. Robert H. Kennedy, chairman of the National Fracture Committee of the American College of Surgeons. Dr. Kennedy's lecture was followed by a movie on emergency splinting produced by the College's Regional Fracture Committee.

On January 5, Dr. Frederick W. Bancroft, president of the New York Surgical Society, presented the emergency care of abdominal injuries, head and chest injuries, and burns. On January 12, Dr. Lawrence M. Thompson, Chief of the First Aid Division of the American Red Cross, took up the emergency care of wounds, hemorrhage, and shock.

The seventh series of lectures for the public on the army, art and romance of medicine, sponsored by The New York Academy of Medicine, opened on November 13 with the delivery of the Linsly R. Williams Memorial Lecture by Dr. James Alexander Miller. His subject was "Tuberculosis: The Known and the Unknown." The second lecture was given by Dr. Tracy Jackson Putnam on "Mechanisms of the Mind." Other lectures in the series will be:

Dr. Abraham A. Brill, The Freudian Epoch (New York Academy of Medicine Anniversary Discourse), January 22.

Dr. Arnold L. Gesell, New Haven, Conn., Creative Behavior in Child and Adult, February 26.

Dr. Norman H. Jolliffe, History of Vitamin B, March 26
Dr. Anton J. Carlson, Chicago, Newer Knowledge on Nutrition, April 23.

The New York State Chapter of the American College of Chest Physicians will meet on January 23 in the Hotel Biltmore, New York City. The chairman of the morning session is Dr. Nelson W. Strohm, of Buffalo.

The program is as follows:

9:30—Registration of Members and Guests

9:45—"Tracheo-Bronchial Tuberculosis," by Dr. Louis H. Clerf, Professor and Director Department of Bronchoscopy, Jefferson Medical College and Hospital, Philadelphia, Pa.

Discussion opened by Dr. John Devereux Kernan, Professor and Director Department of Bronchoscopy, College of Physicians and Surgeons (Columbia University) and Presbyterian Hospital, New York City.

11:00—"Total Pneumonectomy," by Dr. Julian Johnson, Director Department of Thoracic Surgery, University Pennsylvania Hospital, Philadelphia, Pa.

Discussion opened by Dr. Samuel Olcott Thompson, Associate Professor Surgery, New York Medical College, and Director Department of Thoracic Surgery, Metropolitan Hospital, New York City.

1:00—Lunch

Guest Speaker—Dr. Samuel J. Koletzky, New York City, Medical Director, Selective Service Administration for the State of New York; President of the Medical Society of the State of New York. Subject: "Medical Preparedness."

Hospital News

Emergency Nursing Service

THE formation of a master plan for a 24-hour emergency nursing service for New York City, covering the 30 Health Districts and involving more than 38,000 registered professional nurses, was announced on December 11 through the local Office of Civilian Defense. The plan will be put into operation by Dr. E. M. Bernecker, Chief of the Emergency Medical Service for the City of New York, through whose office at 125 Worth Street, New York, all disaster calls involving nursing service will clear.

At the request of the Emergency Medical Service, a nursing council, representative of the professional nursing organizations and the community's nursing services—including institutional, public health and private duty—is setting up the plan by which all known nurses will be assigned to specific health districts. A call system is being devised to reach each nurse through a designated hospital or other local headquarters.

The nurses themselves are being asked to stand by until full instructions reach them through the organizations with which they are affiliated. Such instructions will include the place to report, a description of suitable uniforms and identifications, and all other pertinent information.

Newsy Notes

ON December 15 seventy-two hospitals in Greater New York (thirty-five in Manhattan) had completed the establishing of emergency field units as outlined in the Medical Division *Bulletins Nos. 1 and 2* from the Office of Civilian Defense.

With the end of 1941 came the close of the United Hospital Fund carried on for the past several weeks in New York City and vicinity. As of December 13, there had been collected \$1,032,214.04, and the goal set was \$1,784,000. The number of subscribers, as well as the amount collected, was greater as of this date than in 1940. Seventy-five volunteer nonprofit hospitals benefit by the fund.

"If a hospital is great in spirit, original in its outlook, creative in its service and inspiring in its community relationships, that hospital will assume a definite personality, for the success of an institution is not measured by its size alone," said Mr. Raymond P. Sloan, associate editor of *Modern Hospital*, at a recent dinner meeting of the board of trustees and medical board of the Staten Island Hospital.

"In this country we are studying more closely hospital service in its relationship to community health needs. . . .

"What we need more today than anything else is faith with which to fight, faith in the fact

that service to suffering humanity will bring its own reward. With such faith we will look into the future fearlessly, and plan for that future, with the careful consideration of the role that each has to play. We will build our hospitals, our doctors' workshops on a solid foundation, designing them to the pattern of the community's health needs."

"Teamwork between hospital trustees and the medical staff is essential if our voluntary hospitals are going to uphold their tradition of service to the suffering and to function as modern medical and educational centers," he said.

Dr. Frank F. Tallman has been appointed director of the Study of Parole and Family Care by the Temporary Commission on State Hospital Problems, of which Homer Folks, S.C.A.A. secretary, is chairman.

Through the courtesy of the State Department of Mental Hygiene, Dr. Tallman was given a leave of absence in August from his duties as clinical director of the Rockland State Hospital, in order to give full time to the study.

Appointment of the first woman physician to the staff of Herkimer Memorial Hospital was made recently when the directors approved the application of Dr. Margarete Kotrnetz, 133 North Main Street, formerly of Vienna, who started practice here recently.

On November 27 the *Brooklyn Eagle* carried an article on the use of music in hospitals. Mrs. Harriet A. Seymour of 82-16 Beverly Road, Kew Gardens, Long Island, is the founder of the National Foundation of Musical Therapy, which has its headquarters in Steinway Hall, New York City. Since October, Mrs. Seymour has been conducting training classes there. Those entering this field need not be concert quality musicians. A sympathetic personality and a desire to help suffering people are requisites, however.

Certain types of music have been found most effective in dealing with certain types of cases. For example, one type of music is used for shell shock or depressed patients, another type for tubercular patients, and another type for those suffering pain. Doctors hail musical therapy as an adjunct to their treatment.

Improvements

The cornerstone of the Buckley Pavilion of the Methodist Hospital, a nine-story structure now under construction at Sixth Street near Seventh Avenue, was laid on December 4 by Bishop Francis J. McConnel, bishop of the New York area of the Methodist Church. Hersey Egginton, president of the institution, presided at the ceremonies and was assisted by Dr. Chester C. Marshall, director of the hospital.

Dr. Ralph Sheldon, Lyons, was named as delegate to the State Medical Association convention, with Dr. S. W. Houston, Wolcott, alternate.

Dr. D. F. Johnson, Newark, was elected to the

board of censors to replace Dr. Myron E. Carmer, Lyons. Other members of the board are Dr. George S. Allen, Clyde, and Dr. Arthur Besemer, Marion.

Deaths of New York State Physicians

Name	Age	Medical School	Date of Death	Residence
George Ambrus	45	Szeged	November 14	Manhattan
Samuel T. Barton	78	Kentucky Med.	December 17	Canastota
Joseph Brettauer	78	Graz	December 26	Manhattan
Archibald Buchanan	75	Albany	November 16	Troy
George M. Case	80	Jefferson	December 13	Elmira
James J. Duffy	49	Harvard	December 13	Manhattan
Morris Fink	59	P. & S. N. Y.	October 31	Manhattan
Samuel W. Green	47	Albany	December 26	Brooklyn
Oscar P. Honegger	86	Heidelberg	December 25	Lake Mahopac
Moses Krakowski	75	Kharkov	October 31	Bronx
Maurice J. Lippman	57	Univ. & Bell.	October 31	Manhattan
William Lustig	57	L. I. C. Hospital	October 29	Manhattan
Donald T. MacPhail	70	Medico-Chirurg-Phila.	December 16	Manhattan
Frederic E. Montgomery	60	George Washington	December 28	Forest Hills
Emil T. Mueller	61	Heidelberg	December 17	North Tonawanda
Walter L. Niles	63	Cornell	December 22	Manhattan
Terence B. O'Neil	66	Maryland	December 9	Ilion
Leo Schreiber	64	Baltimore Med.	March 4	Brooklyn
William S. Thomas	70	Washington, D. C.	December 21	Manhattan
Arthur H. Terry	84	P. & S. N. Y.	December 26	Patchogue
George Walrath	61	Albany	December 21	Port Richmond

DOCTORS ARE HUMAN BEINGS

"Physicians are dying needlessly every year of advanced disease. . . many have never had a physical examination since they were examined for life insurance. . . it is a real tragedy to find hopeless advanced cancer in a physician." These calamitous lines appear in a *Bulletin* for the American Society for the Control of Cancer.

In contrast, one reads in the September issue of the Metropolitan Life Insurance *Bulletin*: "New Army in Excellent Health," "Average Length of Life Increased by One-Third Since 1900," and "Health of American Wage-Earners Remains at High Level"—but at what level is the health of the American doctor?

Perhaps patriotism will at last accomplish what family admonitions and mere possession of knowledge have failed to do, for a doctor's health is no longer a personal matter but one of vital public concern. To maintain the health of the nation—"our first line of defense"—is not an easy task under any conditions but it is now made doubly hard by the acute shortage of physicians due to so many having been called into military service. We can no longer break the rules. *It is time to take our own medicine.*

THE GIRL WHO WORKS FOR A DOCTOR

. . . enters upon a real career and, it seems to me, one of the most useful careers that is possible for her to fulfill," says Miss Marjorie Euler in "Highlights of Twenty-Five Years of Service," published in the *Journal of the Michigan State Medical Society* for September. The article is so complete that it can easily serve as a handbook for the doctor's secretary. The author even counsels on such ticklish problems as explaining away your being late for an appointment when she knows you are lunching with your best crony telling about the big one that got away! She goes into: office housekeeping and ethics; the variety of patient personalities; instrument and book salesmen; telephone calls (with phonetic tips); the insurance patient; and the all-important subject of bills and mail collections (even to sample letters).

On personal appearance, she says: "Be as attractive as possible but this doesn't mean brilliantly colored claws for nails." And on the subject of promptness: "Whatever time your office opens, be at least five minutes ahead of time." In other words: "Be the best 'Girl Friday' you can."

Medical Preparedness

Complete Plans for Handling Professional Personnel in War

Function of Procurement and Assignment Service and Names of Committeemen for Corps Areas Are Announced

AN OUTLINE of the organization of the Procurement and Assignment Service for Physicians, Dentists, and Veterinarians and the names of the corps area committeemen representing the three professions are announced in the Medical Preparedness Section of the *Journal of the American Medical Association* for December 27. The announcement says:

"At a meeting in Chicago of the board of the Procurement and Assignment Service with the Committees on Medical Preparedness of the American Medical Association, the American Dental Association, and the American Veterinary Medical Association, a definite organization was completed for the functioning of this service in relationship to needs of professional personnel in the war."

Physical Requirements for Physicians in Service

"The Procurement and Assignment Service will make available shortly through publication in the periodicals of the professions concerned a tabulation of the physical requirements for physicians applying to any of the federal services."

Evaluation of Physicians Through County Medical Societies

"More than two thousand county medical societies have already made available ratings of physicians available in such counties as regards their employment in essential services and their availability for the Army and Navy Medical services. Steps will be taken to speed up the completion of similar evaluations in the remaining counties."

Questionnaire

"Approval was given to the immediate publication in the professional periodicals of a questionnaire addressed to all members of the medical profession urging them to enroll at once with the Procurement and Assignment Service so as to make available immediately a pool of physicians from whom applicants for commissions might be drawn promptly. The immediate needs of the Army are for men in the grades of lieutenant and captain—that is to say, men particularly under the age of 45."

The National Roster

"A conference was held with representatives of the National Roster, which is a subsidiary of the National Resources Planning Board. Arrangements were made for joint action with the Budget Committee in Washington to secure the necessary funds for operation of the National Roster covering the medical profession and for the regional office in the headquarters of the American Medical Association."

Corps Areas

"Dr. James A. Paullin [Atlanta, Ga.] described the methods by which evaluation has been made of all men in the Fourth Corps Area and also the method by which ratings have been given to specialists

"Approval was given to the constitution of committees in each of the corps areas and associated naval districts to function as advisory to the corps area commander, the committee to consist of a chairman who will be the corps area representative of the Committee on Medical Preparedness of the American Medical Association, *one physician representing medical education, one representing the hospital organizations, two physicians selected at large, two dentists and one representative of the veterinary profession.* The chairmen nominated for the various corps areas are as follows:

First—DR W G PHIPPE, Salem, Massachusetts
Second—DR A W BOOTH, Elmira, New York
Third—DR A M SHIPLEY, Baltimore
Fourth—DR EDGAR GREENE, Atlanta, Georgia
Fifth—DR E L HENDERSON, Louisville, Kentucky
Sixth—DR CHARLES H PHIFER, Chicago
Seventh—DR ROY W FOUTS, Omaha
Eighth—DR SAM E THOMPSON, Kertville, Texas
Ninth—DR CHARLES A DUKES, Oakland, California

"Other physicians nominated to these corps area boards include:

First—DR DEERING G SMITH, Nashua, New Hampshire, DR LUCIUS KINGMAN, Providence, Rhode Island
Second—DR S J KOPETZKY, New York City, DR W J CARRINGTON, Atlantic City, New Jersey
Third—DR C H HENNINGER, Pittsburgh, DR HUGH H TROUT, Roanoke, Virginia
Fourth—DR ALFRED A WALKER, Birmingham, Alabama, DR EDWARD H JELKS, Jacksonville, Florida
Fifth—DR ROBERT COVARD, Wilmington, Ohio, DR LARUE CARTER, Indianapolis
Sixth—DR J MILTON ROBB, Detroit, DR STEPHEN E GAVIN, Fond du Lac, Wisconsin
Seventh—DR F L LOVELAND, Topeka, Kansas, DR ROBERT L PARKER, Des Moines, Iowa
Eighth—DR HOLMAN TAYLOR, Fort Worth, Texas, DR JOHN W AMESSE, Denver
Ninth—DR JOHN FITZGIBBON, Portland, Oregon, DR JOHN H O SHEA, Spokane, Washington

"A regional office is to be established in each corps area for the maintenance of information, for supervision of the state committees and to act as a consulting body on all matters relating to the functions of the Procurement and Assignment Service in the corps area. The following dentists were recommended for appointment:

First—DR PHILIP ADAMS, Boston, DR FRANK W ROUNDS, Boston
Second—DR WILLIAM McG BURNS, Brooklyn, DR ALLAN T NEWMAN, New York City
Third—DR LUCIAN BRUN, Baltimore, DR HARRY BEAR, Richmond, Virginia
Fourth—DR CLAUDE R WOOD, Knoxville, Tenn., DR RALPH R BYRNES, Atlanta, Georgia
Fifth—DR EARL LOWERY, Columbus, Ohio, DR WENDELL POSTLE, Columbus, Ohio
Sixth—DR LEO KREMER, Chicago, DR PAUL H JESERICHT, Ann Arbor, Michigan

The new wing to the Herkimer Memorial Hospital was expected to be ready for occupancy by January 1, 1942.

. . .

The Mercy Hospital in Watertown, conducted by the Sisters of Mercy, has been granted a \$100,000 federal allotment for improvements including construction of a nurses' residence under a defense public works project approved recently by President Roosevelt. The entire program is to cost an estimated \$400,000 of which \$300,000 will be supplied by the hospital.

. . .

Syracuse General Hospital will be able, according to present progress, to make a contribution of 30 to 40 additional beds to relieve the existing shortage by February, providing weather is favorable.

One of the smaller units in the expansion plan for which the public contributed \$500,000 is far enough along to indicate completion and occupancy sometime in the second month of the year.

. . .

A gymnasium incorporating the most up-to-date features is being completed at Brooklyn State Hospital, where it will provide recreational facilities for the 3,450 mental patients, as well as doctors and attendants.

Constructed at a cost of \$150,000, it is described by Dr. Clarence H. Bellinger, medical superintendent, as the finest hospital gym in the state. The main gym floor, marked as a full-size basketball court, is being equipped with apparatus for physical training purposes. In the basement are four bowling alleys and a separate room is being outfitted with pool and billiard tables.

By means of a mile-long tunnel connecting buildings of Kings County Hospital with affiliated pavilions and institutes, the gymnasium will be accessible from all buildings.

In a move to facilitate research among the incurably sick, the Jewish Sanitarium and Hospital for Chronic Diseases in Brooklyn has created a special division among its medical staff to begin intensive investigations for treatment of active chronic cases, Abraham S. Singer, president of the institution, has announced.

. . .

Archbishop Spellman and other prominent members of the Catholic clergy participated recently in ceremonies dedicating the opening of a new nurses' wing and other improvements at St. Elizabeth's Hospital at 190th Street and Fort Washington Avenue.

. . .

The new x-ray installation recently completed in Oneida City Hospital at a cost of approximately \$13,000 is the latest and most modern of its kind in that part of the country.

. . .

In order to provide means for unhurried escape for the children at Neponsit Beach Hospital, new safety stairs will be built that will allow the crippled children to reach safety quickly in case of fire at the big West End institution. This is the latest development in the complete modernization of the hospital that has been under way by the WPA under the sponsorship of the Department of Hospitals. The announcement of the improvement was made by Major Irving Huie, WPA administrator for New York City.

. . .

The new Faxton Hospital in Utica under construction for the past eighteen months, was formally dedicated on December 7.

The dedication ceremonies marked the completion of the project which has involved the expenditure of approximately \$200,000.

NEW YORK HEART ASSOCIATION TO MEET

A joint scientific session of the New York Heart Association and the Medicine Section of The New York Academy of Medicine will be held on Tuesday, January 20, at the Academy, 2 East 103rd Street, New York City. The session, starting at 8:45 p.m., will be preceded by the annual dinner meeting of the association's council at 7:00 p.m. The Heart Association is a division of the New York Tuberculosis and Health Association.

The session program is as follows:

1. Report of the New York Heart Association by Dr. Ernst P. Boas, chairman.

2. "Experimental and Clinical Studies in the Use of Anti-Coagulants in Cardiovascular Dis-

ease, with Special Reference to Heparin and Dicoumarin," by Dr. Andrew G. Prandoni, Department of Internal Medicine, New York Post-Graduate Medical School and Hospital, Columbia University. Discussion by Dr. Irving S. Wright, professor of medicine, New York Post-Graduate Medical School and Hospital, Columbia University.

3. "Some Chemical Changes in the Myocardium Accompanying Heart Failure," by Dr. Victor C. Myers, professor of biochemistry, Western Reserve University, Cleveland. Discussion by Dr. Maurice Bruger, Department of Medicine, New York Post-Graduate Medical School and Hospital, Columbia University.

Woman's Auxiliary

To the Medical Society of the State of New York

GREETINGS, Folks. It's your convention chairman turning in with an invitation and a bit of news on the forthcoming convention.

Kings, Queens, Nassau, Suffolk, Rockland, and Orange counties extend to all doctors' wives, whether members of an auxiliary or not, a most cordial invitation to register at our headquarters, Waldorf-Astoria Hotel, and attend all the meetings and social functions of the Medical Society of the State of New York which is scheduled for April 27, 28, 29, 30, 1942.

The Medical Society of the State of New York graciously and generously assigned us the grand Starlight Roof. The Convention Committee women are laying an excellent foundation, and we ask that all doctors' wives help us in the building of the structure of the forthcoming convention.

That's all—until the next JOURNAL and more news.

Signing off,

MABEL A. PORLMANN
Convention Chairman

County News

Albany. A luncheon was held at the De Witt Clinton Hotel, on December 9, Mrs. George B. Adams, state president, was the guest speaker. Columbia, Rensselaer, and Schenectady counties were well represented.

Madison. Congratulations to Mrs. L. S. Preston, of Oneida, newly elected president, and Mrs. A. J. Zaia, of Oneida, who has been appointed press and publicity chairman.

Nassau. At the November meeting Dr. Le Grand Kerr, of Brooklyn, spoke on "Dames, Doctors and Doings in the Drab Nineties." The talk was most interesting, humorous, and enlightening. He mentioned changes in the laymen's attitude with regard to hospitals, fresh air in aiding proper care of the sick and, last but not least, the change in women's attitude toward clothing—from corsets to freedom. Guests at this meeting were Mrs. Le Grand Kerr, Dr. B. D. St. John, and Dr. Louis Van Kleeck of the Nassau County Medical Society. Hostess for the evening refreshment hour was Mrs. Louis Lally.

At the annual Christmas party the members brought toys for children (ages from 12 through 16) who are in foster homes. The next meeting will be on January 27 at the Nassau Hospital Auditorium at 8:45 p.m. Moving pictures will be shown by Dr. Eugene H. Coon.

Onondaga. A formal dinner was held on December 21 in the small ballroom of the Hotel Syracuse. Covers were laid for 130 members. Mrs. John Buettner and Mrs. Francis R. Irving were chairmen of the evening. Mrs. George Murdock was in charge of program and Mrs. John Hogan was in charge of tickets. Mrs. Winthrop Pennock, past-president and present director of Woman's Civilian Defense Work in New York State, gave a sincere appeal for volunteer workers and cooperation in organizing the com-

munity defense. Seated with Mrs. Pennock at the speakers' table were Mrs. Edgar M. Neptune, Mrs. Brooks McCuen, Mrs. Walden Retan, Mrs. John Buettner, Mrs. Ambrose T. Lawless, Mrs. Leo Gibson, and Mrs. Francis Irving. Accordion players entertained during the dinner hour. Mrs. Marcus Richards, of Tully, gave a few clever readings, and Mrs. Russell Harder entertained during the evening.

Rensselaer. Two new members were admitted, Mrs. Irving Strosberg and Mrs. James J. Dunne; Mrs. Fred W. Lowinger, of Albany, was a guest at the meeting. Tea was served by Mrs. Minnie B. Stannard, chairman of the hospitality. She was assisted by Mrs. Richard P. Doody, Mrs. John B. Carroll, Mrs. Arthur W. Benson, and Mrs. John Enzien. Mrs. A. J. Hambrook and Mrs. Charles E. Bessey presided at the tea table.

At the annual Christmas party officers were elected for the ensuing year.

Rockland. The November meeting was held at the home of Mrs. F. Schwartz, of Spring Valley. There were fourteen members present. Mrs. T. Olmstead, president, presided. The committees for the year were appointed. Mrs. S. Kwalwasser—*Hygeia*, Mrs. A. Schechner—publicity and press, Mrs. I. Deutsch—legislation, Mrs. A. Magid—program, Mrs. K. Blatt—printing and supplies. Rockland County is to be one of the hostesses to the counties at the State Convention at the Waldorf in April. Mrs. Schwartz and Mrs. Selman, of Spring Valley, Mrs. Rooney and Mrs. Schechner, of Nyack, Miss Hirsch, of Haverstraw, and Mrs. Olmstead, of Pearl River, volunteered to work on committees at the convention. The auxiliary is still working on its project to get contributions for Bundles for Britain. The next meeting will be held at Nyack at the home of Mrs. A. Schechner on January 20.

Saratoga. Mrs. James F. Roohan was elected president of the auxiliary. The meeting was held at the Nurses Lounge, with Miss Adeline M. Hughes, superintendent of the hospital, acting as hostess for the evening. Mrs. Robert E. Rockwell was elected vice-president; Mrs. Edward J. Callahan, Schuylerville, secretary; and Mrs. Harry L. Loop, treasurer. Annual reports showed a year of activity and progress in all committee projects. Mrs. Thomas E. Bullard, Schuylerville, who retired as president, was presented with a past officer's pin and with an evening bag as a token of her leadership and work. Mrs. Leon Chadwick of the Homestead Sanatorium gave a Christmas reading. There was a Christmas tree and gifts were distributed. New members welcomed were Mrs. Richard D. Bullard and Mrs. William Van Dorn, of Mechanicville, and Mrs. Fred J. Pratt and Mrs. Carl J. Thompson, of Mount McGregor. Miss Hughes was assisted by the following hostesses: Mrs. Joseph Lebowich, Mrs. Thomas J. Goodfellow, Mrs. Rockwell, Mrs. Richard Y. Lindsay,

Seventh—Dr. F. A. PIERSON, Omaha; Dr. A. W. BRYAN, Iowa City.

Eighth—Dr. H. G. DUCKWORTH, San Antonio, Texas; Dr. FRED C. ELLIOTT, Houston, Texas.

Ninth—Dr. B. C. KINGSBURY, San Francisco; Dr. E. G. SLOMAN, San Francisco.

"The following veterinarians were recommended for appointment:

First—Dr. R. W. SMITH, Concord, New Hampshire.

Second—Dr. R. R. BIRCH, Ithaca, New York.

Third—Dr. MARK WELSH, College Park, Maryland.

Fourth—Dr. B. T. SIMMS, Auburn, Alabama.

Fifth—Dr. A. F. SCHALK, Columbus, Ohio.

Sixth—Dr. WARD GILTNER, East Lansing, Michigan.

Seventh—Dr. H. D. BERGMAN, Ames, Iowa.

Eighth—Dr. M. B. STARNES, Dallas, Texas.

Ninth—Dr. C. M. HARINO, Berkeley, California.

"The names of the physicians representing medical education and those of the hospital organizations will be published later.

"The technic was also described for supplying the names of physicians to appropriate governmental agencies according to the present methods of functioning of the Procurement and Assignment Service."

Trained Attendants to Replace Interns on Ambulances

DR. WILLARD C. RAPPEYE, Commissioner of Hospitals, New York City, announced on December 21 that it probably would be necessary in the near future to discontinue interns on the ambulances of both the voluntary and municipal hospitals, due to the increasing shortage of interns in the hospitals of the city. Because of the need of medical officers for the expanding Army and Navy, many interns will be called to military duty.

Under the plan now contemplated, trained attendants competent to deal with first aid and emergency care will be provided on each ambulance. All patients requiring diagnosis or medical attention will be promptly brought to the hospital, where they will be seen in the emergency ward and where proper diagnosis and treatment will be established. Those who require hospitalization will be admitted; those who require only temporary care will be kept in the emergency ward until they can be discharged.

Dr. Rappeye stated that the Department of Hospitals and the voluntary institutions have for some months been working on plans to provide trained ambulance attendants to take the place

of interns on the ambulances. In practically all large cities the ambulance service is manned by nonmedical personnel. Commissioner Rappeye pointed out that at the present time less than half of the ambulance calls are for emergencies, which is the real purpose of ambulance service. He said that many of the calls were for medical attention in the home or for minor injuries which could be taken care of in some outpatient department or by a neighborhood physician. It is highly important that the ambulance services of the city under present circumstances be reserved for real emergencies. Commissioner Rappeye appeals to individuals, families, and community organization to cooperate by going to private physicians or to outpatient departments and hospitals for medical attention rather than calling ambulances to their homes for ordinary illnesses or minor complaints.

Dr. Rappeye emphasized that the program now being studied would not in any way change the medical and nursing personnel in the eighty emergency units now organized throughout the city that are standing by for any major catastrophe in the community.

A.M.A. BROADCASTS

Doctors at Work, the dramatized radio program broadcast by the American Medical Association and the National Broadcasting Company, is on the air for its second season: from 5:30 to 6 P.M. eastern standard time on Saturday evenings.

Doctors at Work, a successful serialized story broadcast last year, dealt with the experiences of a fictitious but typical American boy choosing medicine for his vocation and proceeding to acquire the necessary education and hospital training for the private practice of medicine. Interwoven with the personal story of young Dr. Tom Riggs and his fiancée, Alice Adams, was the romance of modern medicine and how it benefits the doctor's patients. The new series of broadcasts is taking up where last year's story left off—namely, with the marriage of Tom Riggs and Alice Adams—and depicts the subsequent life of a young doctor and his wife in time of national emergency in a typical medium-sized American city.

MUTINY ON THE BOUNTY

Buried beneath a mass of dry statistics, we noticed a report recently that our large "Foundations" are now devoting a third of their money-grants to medical research, medical teaching, and other facets of the healing art. The same study also reveals that education, for decades the pet project of the "Foundations," has been ousted from the number one position by medicine, which is now their prime beneficiary. This solicitude is matched only by increasing government concern with medical care, and our profession is thus the victim of an embarrassment of riches.

Now this is all flattering and, at first glance, comforting. Second thought, however, reveals a faint cloud in the horizon. It seems that the man who pays the piper is still entitled to call the tune on any request program. Can it be that the philanthropists and politicians who are opening the purse are also anxious to dictate the policies? Or is this petulant query just another Mutiny on the Bounty? —*J. Med. Soc. N. J.*

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Current medical opinion states that most vitamin B deficiencies are multiple and therefore it is essential to treat such deficiencies with the complete vitamin B complex rather than with just the known synthesized B vitamins.

ELIXIR B-PLEX is a palatable elixir of yeast concentrate. It is a natural source of the water-soluble active constituents of a potent brewer's yeast containing the unidentified fractions as well as the known factors of B complex.

Write "ELIXIR B-PLEX, Wyeth" for your B avitaminosis cases.

Supplied in eight-ounce bottles.

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Say you saw it in the NEW YORK STATE JOURNAL OF MEDICINE

Miss Addie E. Farwell, Mrs. G. Scott Towne, and Mrs. Webster M. Moriarta.

Schenectady. The November meeting was held at Glenridge Sanitarium. Mrs. Eleanor Nash, of New York, fashion expert, gave a talk on the latest styles and the fashions of today and the coming year. She was introduced by Mrs. Charles F. Rourke, program chairman. Mrs. E. MacDonald Stanton presided at the meeting. The annual Christmas tea was held at the home of Mrs. Albert Grussner, with Mrs. James M. Blake as hostess. Mrs. A. S. Fay presided at the tea table, assisted by Mrs. George A. Reich and Mrs. George Von Borstel.

Warren. The December meeting was held at the home of Mrs. John Griffin. Mrs. Hulsebach presided, and twenty-two members were present. The members decided to sponsor a first-aid class beginning January 5, at the Red Cross Headquarters. Sixteen members signed up for the course. Tea was served following the meeting; Mrs. Lefevre and Mrs. Thayer poured. Hostesses assisting Mrs. Canaday were Mrs. Sheldon, Mrs. Davis, Mrs. Mitchell, and Mrs. Haukins. Mrs. Wilmer, wife of the Hospital Superintendent, was a guest at the tea.

Washington. Fourteen members and four guests were present at the November meeting. Mrs. Irwin V. Decker, president, presided. Mrs. Decker thanked all officers and chairmen for their fine cooperation during her year of office. Reports of all chairmen of committees were read. The following officers were elected: Mrs. Kennedy Creevey, Cambridge, president; Mrs. Irwin V. Decker, Salem, vice-president; Mrs. Clayton Oestreicher, Sushan, secretary; Mrs. R. E. Borrowman, Fort Edward, treasurer. The auxiliary dues were changed from \$2.00 to \$1.50. Mrs. Edward B. Mates was welcomed as a new member. The auxiliary has assisted with the sale of Tuberculosis Seals. Crimson berries in a silver bowl and white candles in silver holders graced the tea table. Mrs. Robert McClellan and Mrs. Denver presided.

We do not know what the year ahead will bring. During December, 1941, declarations of war on Japan, Germany, and Italy have come. We are in total war. We must face it and serve as never before. With a prayer for "Peace on earth, good will to men," your publicity chairman sends each member a New Year's Greeting.

DEPRESSIVE STATES IN THE SOLDIER

In an article in the *British Medical Journal*, R. F. Tredgold recommends rest, general psychotherapy, and prolonged narcosis for depressive states in the soldier.

"...The patients were kept in bed for at least twenty-four hours, practically all for forty-eight hours, and some for a week. During this time the question of future treatment and of narcosis therapy was considered. The majority of the patients, however, were those whose progress appeared satisfactory; they were gotten up and given light jobs, usually in the ward, requiring little concentration, responsibility, or perseverance. Their existence was ruled by a fairly strict routine time table; it regularly included fresh air and adequate meals.

"Gradually their occupation was made more interesting and more vigorous, and so far as possible in tune with their own hobbies or occupations. This was not always feasible, and rug and basket making, digging, and weaving proved valuable substitutes, with the help of varied physical training and entertainment such as cinemas and organized games.

"General psychotherapy consisted in giving individual encouragement and reassurance and, later, included a series of talks, leading the patient to adjust his personality to cope with his difficulties so far as was possible and stressing the fact that he had passed through an illness caused, like any other, by physical factors.

"Those patients whose progress appeared unsatisfactory after a few days' observation or who suffered acute anxiety were recommended prolonged narcosis."—Abstracted in *Archives of Physical Therapy*

THE "TALKING MIRROR"

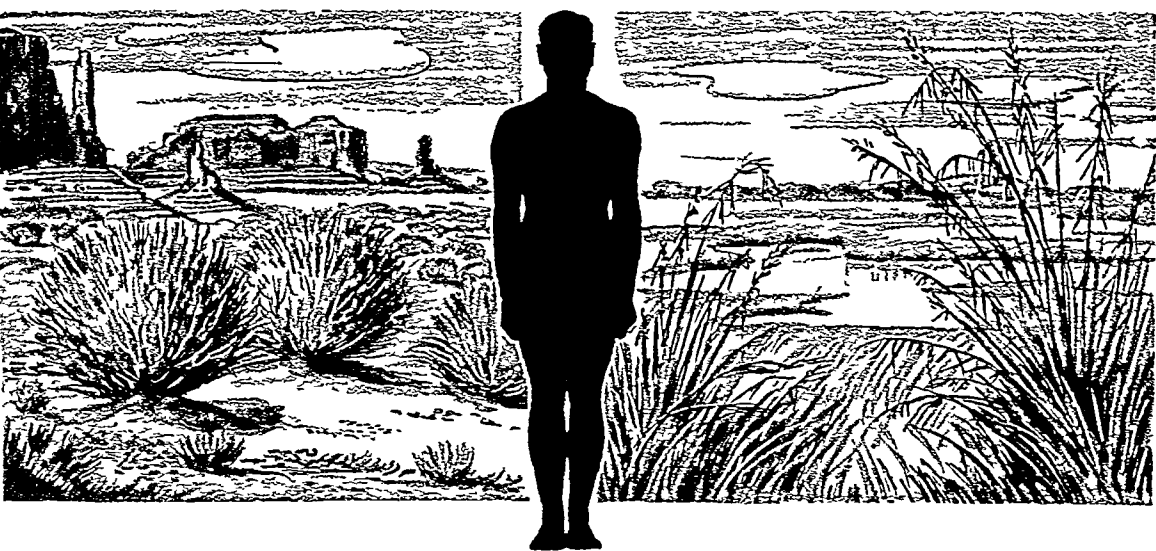
Reactions observed among large groups of persons who saw the State Health Department's new exhibit on cancer, which was displayed for the first time at the Erie County Fair in Hamburg, indicate that the subject is of interest to persons in all walks of life and of all ages.

The central feature of the exhibit is the "talking mirror." Twelve questions on cancer control are posted and when the spectator inserts a plug into a numbered hole corresponding to the number of a question on the panel board in front of the mirror, the question is answered, apparently by the mirror.

The operator concealed behind the mirror, first explains that the voice is not reproduced by mechanical means and then proceeds with the answer. During the narration, the front lights are dimmed and rear floodlights are turned on so that the mirror becomes transparent and the operator is seen. In this way many instructive facts about cancer are given, audience interest being held by the change of light on the mirror and the spectator's operation of the apparatus.

During the display of the exhibit the demand was so great for repeat performances that it was necessary to employ three attendants so that it might be in operation from early morning until late in the evening.

The "talking mirror" together with operating personnel is available only to large conventions and meetings of statewide organizations. Requests should be addressed to the Bureau of Visual Instruction, New York State Department of Health, Albany, New York.—*Health News*



Neither Sagebrush nor Marsh Grass

Sagebrush grows best in a desert, and marsh grass blooms in a swamp. The human colon seeks a middle course between these two extremes.

Thus the normal stool characteristic of normal function is neither hard-packed and dehydrated as found in constipation—nor almost fluid as found in diarrhea.

In the corrective treatment of constipation, the success of

MUCILOSE

lies in its capacity to produce a nearly normal condition of the fecal content by controlling "water-balance."

In a recent investigation the increase in hydration produced by Mucilose was found to be nearly double that of tragacanth preparations.*

*Colloid Laxatives Available for Clinical Use Gray, H and Tanter, M.L. Jour D D , 8 130-139 (April) 1941

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Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N. Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and interest to our readers.

RECEIVED

Doctors Anonymous. *The Story of Laboratory Medicine.* By William M. German, M.D. Octavo of 300 pages, illustrated. New York, Duell, Sloan & Pearce, 1941. Cloth, \$2.75.

Diseases of the Thyroid Gland. Presenting the Experience of More Than Forty Years. By Arthur E. Hertzler, M.D. Quarto of 670 pages, illustrated. New York, Paul B. Hoeber, Inc., 1941. Cloth, \$8.50.

Lectures on War Neuroses. By T. A. Ross, M.D. Duodecimo of 116 pages. Baltimore, Williams & Wilkins Company, 1941. Cloth, \$2.00.

Practical Methods in Biochemistry. By Frederick C. Koch. Third edition. Octavo of 314 pages. Baltimore, Williams & Wilkins Company, 1941. Cloth, \$2.25.

Essentials of Occupational Diseases. By Jewett V. Reed, M.D., and A. K. Harcourt, M.D. Octavo of 225 pages. Springfield, Charles C. Thomas, 1941. Cloth, \$4.50.

Surgery of the Heart. By E. S. J. King, M.D. Octavo of 728 pages, illustrated. Baltimore, Williams & Wilkins Company, 1941. Cloth, \$13.50.

William Henry Welch and the Heroic Age of American Medicine. By Simon Flexner and James T. Flexner. Octavo of 539 pages. New York, The Viking Press, 1941. Cloth, \$3.75.

The Medical Clinics of North America. September, 1941. Volume 25, No. 5. (Boston Number.) Octavo. Illustrated. Philadelphia, W. B. Saunders Company, 1941. Six numbers a year. Cloth, \$16 net; paper, \$12 net.

Cancer of the Face and Mouth: Diagnosis, Treatment, Surgical Repair. By Vilray P. Blair, M.D., Sherwood Moore, M.D., and Louis T. Byars, M.D. Quarto of 599 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$10.

The Intervertebral Disc. With Special Reference to Rupture of the Annulus Fibrosus with Herniation of the Nucleus Pulposus. By F. Keith Bradford, M.D., and R. Glen Spurling, M.D. Quarto of 158 pages, illustrated. Springfield, Charles C. Thomas, 1941. Cloth, \$4.00.

Diseases of the Nails. By V. Pardo-Castello, M.D. Second edition. Octavo of 193 pages, illustrated. Springfield, Charles C. Thomas, 1941. Cloth, \$3.50.

The Treatment of Burns. By A. B. Wallace, M.B. (Oxford War Manuals.) 16mo of 113 pages, illustrated. New York, Oxford University Press, 1941. Cloth, \$1.50.

Technique of Gastric Operations. By Rodney Maingot, F.R.C.S. (Oxford Medical Publications.) Octavo of 240 pages, illustrated. New York, Oxford University Press, 1941. Cloth, \$4.50.

The Man Who Lived for Tomorrow. A Biography of William Hallock Park, M.D. By

Wade W. Oliver. Octavo of 507 pages. New York, E. P. Dutton & Company, 1941. Cloth, \$3.75.

The Art and Science of Nutrition. A Textbook on the Theory and Application of Nutrition. By Estelle E. Hawley, Ph.D., and Grace Carden, B.S. Octavo of 619 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$3.50.

Synopsis of the Preparation and Aftercare of Surgical Patients. By Hugh C. Ilgenfritz, M.D., and Rawley M. Penick, Jr., M.D. Duodecimo of 532 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$5.00.

Diseases of the Blood and Atlas of Hematology. With Clinical and Hematologic Descriptions of the Blood Diseases Including a Section on Technic and Terminology. By Roy R. Kracke, M.D. Second edition. Quarto of 692 pages, illustrated. Philadelphia, J. B. Lippincott Company, 1941. Cloth, \$15.

An X-Ray Atlas of Silicosis. By Arthur J. Amor, M.D. Quarto of 206 pages, illustrated. Baltimore, Williams & Wilkins Company, 1941. Cloth, \$8.00.

Shock Treatment in Psychiatry: A Manual. By Lucie Jessner, M.D., and V. Gerard Ryan, M.D. Octavo of 149 pages. New York, Grune & Stratton, 1941. Cloth, \$3.50.

Chemical Formulary. A Collection of Valuable, Timely, Practical Commercial Formulae and Recipes for Making Thousands of Products in Many Fields of Industry. Volume V. Editor-in-Chief, H. Bennett. Octavo of 676 pages. Brooklyn, Chemical Publishing Company, 1941. Cloth, \$6.00.

Teaching Preventive Medicine to Medical Students. With Special Reference to the Use of Health Department Facilities. By Hugh R. Leavell, M.D. Octavo of 77 pages. New York, The Commonwealth Fund, 1941. Paper, 25¢.

Symptoms in Diagnosis. By Jonathan C. Meakins, M.D. Octavo of 323 pages, illustrated. Boston, Little, Brown & Company, 1941. Cloth, \$4.00.

America's Nutrition Primer. What To Eat and Why. By Eleanor A. Sense. Octavo of 95 pages, illustrated. New York, M. Barrows & Company, 1941. Cloth, \$1.00.

Dark Legend. A Study in Murder. By Fred-eric Wertham. Octavo of 270 pages. New York, Duell, Sloan & Pearce, 1941. Cloth, \$2.75.

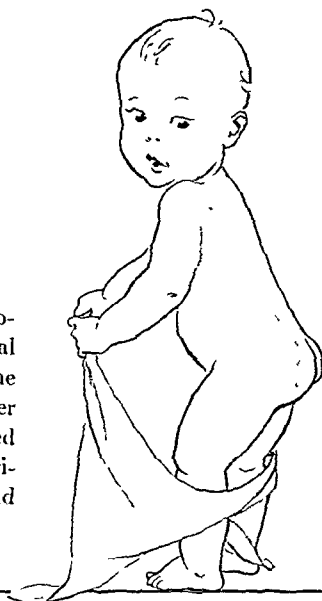
Occupational Diseases. Diagnosis, Medical Aspects and Treatment. By Rutherford T. Johnstone, M.D. Octavo of 558 pages, illustrated. Philadelphia, W. B. Saunders Company, 1941. Cloth, \$7.50.

The Modern Treatment of Syphilis. By Joseph E. Moore, M.D. Second edition. Quarto

[Continued on page 132]

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	MINIMAL REQUIREMENTS	BIOLAC FEEDINGS
PROTEIN (gms./lb. body weight) . . .	1.4 to 1.8* . . .	2.2†
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IRON (mgms./100 calories)	0.75	1.25
VITAMIN A (U.S.P. Units/day)	1500.	2500.
VITAMIN B ₁ (U.S.P. Units/day)	83.	85.
VITAMIN B ₂ (mgms./day)	0.5	2.
VITAMIN D (U.S.P. Units 100 calories)	50.	63.

*The Food & Drug Administration has not promulgated minimum requirements for protein and calcium in infancy. The values shown are those recommended by the National Nutrition Conference

†When Biolac formulae are fed in the amount of 2½ fl. oz./lb. body weight.

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[Continued from page 180]

of 674 pages, illustrated. Springfield, Charles C. Thomas, 1941. Cloth, \$7.00.

Nutritional Deficiencies: Diagnosis and Treatment. By John B. Youmans, M.D. Octavo of 385 pages, illustrated. Philadelphia, J. B. Lippincott Company, 1941. Cloth, \$5.00.

Pre-eclamptic and Eclamptic Toxemia of Pregnancy. By Lewis Dexter, M.D., and Soma Weiss, M.D. Octavo of 415 pages, illustrated. Boston, Little, Brown & Company, 1941. Cloth, \$5.00.

Sinus. By Russell Clark Grove, M.D. Duodecimo of 165 pages, illustrated. New York, Alfred A. Knopf, 1941. Cloth, \$2.00.

The Principal Nervous Pathways. Neurological Charts and Schemas with Explanatory Notes. By Andrew T. Rasmussen, Ph.D. Second edition. Quarto of 73 pages, illustrated. New York, Macmillan Company, 1941. Cloth, \$2.50.

Objective and Experimental Psychiatry. By D. Ewen Cameron, M.D. Second edition. Octavo of 390 pages. New York, Macmillan Company, 1941. Cloth, \$3.75.

Insect Pests. By William C. Harvey, M.D., and Harry Hill. Octavo of 292 pages, illustrated. Brooklyn, Chemical Publishing Company, 1941. Cloth, \$4.25.

Infant Nutrition. A Textbook of Infant Feeding for Students and Practitioners of Medicine. By Williams M. Marriott, M.D. Revised by P. C. Jeans, M.D. Third edition. Octavo of 475 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$5.50.

Diseases of Women. By Harry S. Crossen, M.D., and Robert J. Crossen, M.D. Ninth edition. Quarto of 948 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$12.50.

L. Baxter, Medicus. By Knud Stouman. Octavo of 406 pages. New York, The Greystone Press, Inc., 1941. Cloth, \$2.75.

REVIEWED

Chemistry of Food and Nutrition. By Henry C. Sherman, Ph.D. Sixth edition. Octavo of 611 pages. New York, Macmillan Company, 1941. Cloth, \$3.50.

This is a new edition of the best work on its subject. Although originally prepared as a college text, this book should be of great service to those who are interested in "the kinds and amounts of elements and other foodstuffs that are needed in our nutrition, the considerations which should underlie our judgments of food values, and the choice and use of foods for the nutritional improvement of life."

Recent advances in nutrition have been many and varied. Consequently, every chapter in the volume has been revised. The half of the book devoted to vitamins has been completely rewritten. Those who have not been keeping up to date on all the newest work in this field will find it worth their while to study this volume.

It need not be necessary to add that Dr. Sherman's eminent position in the field of food and nutrition chemistry guarantees the dependability and accuracy of all the contents.

ETHEL PLOTZ BERMAN

Collected Papers of the Mayo Clinic and the Mayo Foundation. Edited by Richard M. Hewitt, M.D., A. B. Nevling, M.D., Harry L. Day, M.D., and others. Volume XXXII. Octavo of 1,190 pages, illustrated. Philadelphia, W. B. Saunders Company, 1941. Cloth, \$11.50.

The general plan of the annual Mayo Clinic volume is deservedly well known. Most of the important contributions made by the members of the staff to the current literature are included either in full or in part, depending on the length of the article and its interest. There are numerous articles that illuminate every branch of medicine, and nearly every advance made during the year is more than adequately covered.

A novel feature of this year's collection is the section on Military Medicine. There are 180 pages of material that will prove of interest to

all physicians. Among the articles are those on march foot, shock, transfusions of plasma, traumatic surgery, high altitude, skin grafting, etc. In short, this section, as well as the entire volume, will appeal to all practitioners in every field.

MILTON PLOTZ

Synopsis of Diseases of the Heart and Arteries. By George R. Herrmann, M.D. Second edition. Duodecimo of 468 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$5.00.

The author has completely revised the second edition of this excellent book. In a short space it is quite surprising how much information is included. It is inevitable, during condensation, that some of the explanations are rather meager and would be a little hard to comprehend by those not already well familiar with the literature. This particularly applies to some of the theoretic discussions and to parts of the section on electrocardiography. However, this can readily be overcome if desired by referring to treatises that discuss these phases in more detail. Anyone who knows the contents of this book thoroughly is familiar with the most modern conceptions of cardiology. The book can be recommended with confidence for those who desire a short summary of diseases of the heart and arteries.

J. HAMILTON CRAWFORD

Trauma and Disease. Edited by Leopold Brabdy, M.D., and Samuel Kahn, M.D. Second edition. Octavo of 655 pages, illustrated. Philadelphia, Lea & Febiger, 1941. Cloth, \$7.50.

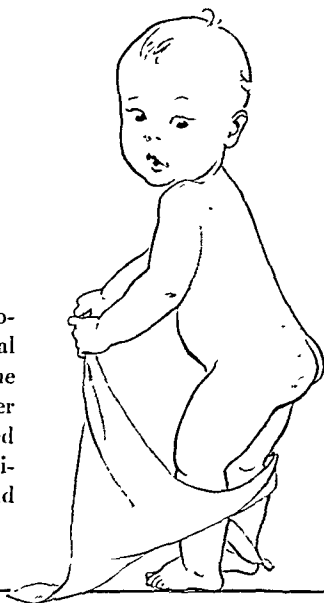
With the increase of compensation laws and the growth of industrial medicine, a practical book showing the effects of a single trauma in producing disease is timely, for it covers nearly every phase of medicine including gynecology and obstetrics and also trauma of the nervous system and mental disorders which may ensue.

One must realize, however, that the contents

[Continued on page 184]

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*The Food & Drug Administration has not promulgated minimum requirements for protein and calcium in infancy. The values shown are those recommended by the National Nutrition Conference.

†When Biolac formulas are fed in the amount of 2½ fl. oz./lb. body weight.

Biolac is prepared from whole milk, skim milk, lactose, vitamin B₁, concentrate of vitamins A and D from cod liver oil, and ferric citrate. Evaporated, homogenized, *sterilized*.



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[Continued from page 182]

in this edition are much curtailed because the book is not large enough to cover so vast a subject. The extensive bibliography at the end of each chapter gives an opportunity to look up further information. It is recommended to all those who are engaged in compensation work.

MAURICE J. DATTELBAUM

Orbital Tumors. Results Following the Transcranial Operative Attack. By Walter E. Dandy. Octavo of 168 pages, illustrated. New York, Oskar Piest, 1941. Cloth, \$5.00.

This excellent profusely illustrated monograph serves strongly to emphasize the role of the neurosurgeon in the surgical treatment of orbital neoplasms. The advantages of the transcranial approach versus the conventional modes of attack, as carried out by the ophthalmologic surgeon, will become immediately obvious when one notes the high incidence of intracranial extensions.

The book is written in the case-history manner and combines a wide variety of both benign and malignant lesions, including osteomas, fibromas, meningiomas, secondary carcinomas and sarcomas, and a few well-described cases of Schüller-Christian's disease.

Of particular interest to the ophthalmic surgeon, the neurologist, and the neurosurgeon, the book offers a sufficient variety of pathologic entities to be of more than passing interest to the general practitioner at large.

RICHARD GRIMES

Essentials of Endocrinology. By Arthur Grollman, M.D. Octavo of 480 pages, illustrated. Philadelphia, J. B. Lippincott Company, 1941. Cloth, \$6.00.

This is a well-written account of what the author considers the essentials of endocrinology. As a pharmacologist, he is at his best discussing the pharmacologic highlights of the subject, and it is understandable that this phase has received relatively more attention than the pathologic and clinical aspects.

On the clinical side, it must be regretfully stated that the volume is disappointing. References are to the literature, and there is not present in the text the emphasis of personal experience. This tends to becloud diagnosis and therapy and lessens the value of the book as a guide in endocrinology, often by its nature a complex maze.

MAX A. GOLDZIEHER

Infantile Paralysis, Anterior Poliomyelitis. By Philip Lewin, M.D. Octavo of 372 pages, illustrated. Philadelphia, W. B. Saunders Company, 1941. Cloth, \$6.00.

This monograph is a careful and complete review of the disease beginning with a discussion of the bacteriology and ending with ultimate operative procedures. The stress is laid on early recognition and diagnosis and the prevention of deformities. It cannot be called an operative surgery, as the space devoted to the surgical technic is too limited. The work can best be described as a general treatise on infantile paralysis that is of value to the general practitioner and pediatrician.

JAQUES C. RUSHMORE

Play for Convalescent Children in Hospitals and at Home. By Anne M. Smith. Octavo of 133 pages. New York, A. S. Barnes & Company, 1941. Cloth, \$1.60.

This is a well-organized little book designed to outline organized play for children convalescing either in the hospital or at home. Doctors, nurses, parents, or other attendants should receive instruction along the line of play activities for various age groups.

Selection of play equipment and gifts for hospital children's wards are discussed.

The last chapter is especially useful, since it classifies tested forms of play, thus furnishing a guide for those who are to make the selection.

THURMAN B. GIVAN

Fractures. By George Perkins, M.C. Oxon. Octavo of 384 pages, illustrated. New York, Oxford University Press, 1940. Cloth, \$6.50.

This new work by an English orthopedic surgeon will prove to be popular. It is obviously based upon a vast personal experience. As a result, the volume does not read like just another text.

The language is clear and concise. There are many interesting comments concerning the causes, treatment, and healing of fractures. The distinction between consolidation and union, as drawn by the author, is not generally made. Modern procedures in treatment of fractures are thoroughly considered.

The illustrations are simple pen-and-ink drawings. The absence of roentgenograms is regrettable but does not detract from the merits of the book. It is strongly recommended.

MAYER E. ROSS

Proctology for the General Practitioner. By Frederick C. Smith, M.D. Second edition. Octavo of 466 pages, illustrated. Philadelphia, F. A. Davis Company, 1941. Cloth, \$4.50.

Much of the second edition of this book has been amplified and, in part, rewritten. Nineteen halftone illustrations and two color plates have been added, and several new subjects have been introduced, such as a brief consideration of pectenosis. The keynote of the book is practicality, and it is intended as a guide for the general practitioner.

The Table of Contents has been improved by the addition of subheadings under each chapter title.

The book is easy to read both from the standpoint of diction as well as printing. The reviewer recommends it for students and general practitioners.

A. W. MARTIN MARINO

The Biologic Fundamentals of Radiation Therapy. A Textbook. By Friedrich Ellinger, M.D. Octavo of 360 pages, illustrated. New York, Nordeman Publishing Company, 1941. Cloth, \$5.00.

In this book the author presents both an introduction to the study of the biologic effects of radiation therapy and a manual and reference compendium for the use of the general practitioner and radiation specialist.

The biologic effects of x-ray, radium, corpus-

[Continued on page 186]

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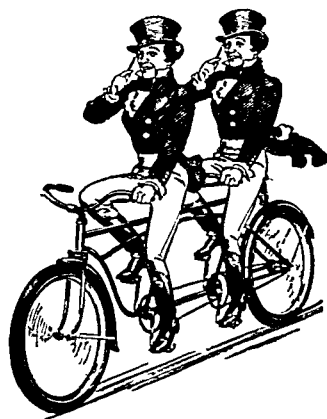
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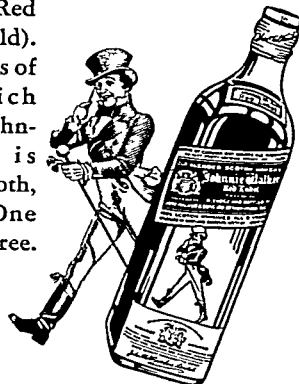
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[Continued from page 184]

cular rays, light and ultraviolet rays, and infrared rays are discussed. The experimental basis for those effects is presented meticulously and with great precision and detail. There is an excellent chapter on the theory of radiation effects and, in various parts of the book, detailed presentations of important phases of the subject. The part on radiation changes induced in sex cells is especially well done.

This book is highly recommended to the radiologist for its content and bibliography. Many of the subjects discussed should be of great interest to all physicians.

A. L. L. BELL

The Pharmacology of Anesthetic Drugs. A Syllabus for Students and Clinicians. Second edition. By John Adriani, M.D. Quarto of 86 pages, illustrated. Springfield, Charles C. Thomas, 1941. Cloth, \$3.50.

This syllabus is limited to fundamentals of the pharmacology of the drugs that are used by the anesthesiologist of today. It is of necessity limited in its scope and presents in its context merely an outline of the drugs usually employed in the preanesthetic preparation of the patient, the anesthetic agents used, and the drugs useful in meeting postanesthetic complications. The information is so arranged that the book is extremely readable, and the printed material carries its message with the aid of ingenious drawings and explanatory charts that make dull pharmacology into something really interesting. It is recommended to those who are giving anesthetics, as well as to students of pharmacology and to practitioners of medicine, for in this book is found a presentation of material, a style of writing, and a genius for interesting detail that is not found elsewhere.

F. P. ANSBRO

The American Illustrated Medical Dictionary. A complete dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland, M.D. Nineteenth edition. Octavo of 1,647 pages, illustrated. Philadelphia, W. B. Saunders Company, 1941. Cloth. Plain, \$7.00. Thumb-Indexed, \$7.50.

With this revision, Dorland's justly popular dictionary enters its nineteenth edition. As usual, this dictionary is thorough, well edited, and pointed. All of the many recent advances in medicine and chemistry seem to be adequately represented in new definitions intelligently and succinctly phrased.

The many illustrations, while not artistic masterpieces, are accurate and relevant, a virtue that few other dictionaries possess. There are 269 portraits of pioneer scientists and eponyms are thoroughly reviewed. In short, this edition can be recommended to student and graduate physician alike.

MILTON PLOTZ

The Malarial Therapy of General Paralysis and Other Conditions. By William H. Kupper, M.D. Octavo of 155 pages, illustrated. Ann Arbor, Edwards Brothers, Inc., 1939. Cloth, \$2.25.

Malarial therapy in general paralysis is the accepted form of therapy and one that has been time tried and found to be the most effective form of treatment for that condition.

The book discusses all phases of the subject—the historical, the clinical, and the biologic, as well as the therapeutic results obtained. It also gives a comparison of malaria with other non-specific agents used in inducing fever in the paretics. It is an excellent survey of the subject and contains a well-balanced bibliography, giving references to numerous articles on the subject.

It is a valuable little book that supplies a much needed want.

IRVING J. SANDS

Hutchinson's Food and the Principles of Dietetics. Revised by V. H. Mottram, M.A., and George Graham, M.D. Ninth edition. Octavo of 648 pages, illustrated. Baltimore, Williams & Wilkins Company, 1940. Cloth, \$6.75.

This edition has been thoroughly rewritten and the latest material on vitamins and minerals added. The theory of nutrition is well covered, and diets in definite diseases are prescribed. A large portion of the book is devoted to the individual foods and their prescription, preparation, and therapeutic value. Aside from the fact that the author favors the habits of the British Isles, the book as a whole is timely and is recommended as a medical reference.

MORRIS ANT

A Textbook of Dietetics. By L. S. P. Davidson, M.D., and Ian A. Anderson, M.B. Octavo of 324 pages. New York, Paul B. Hoeber, Inc., 1941. Cloth, \$4.25.

The authors recognize the need for closer co-operation between the research worker in nutrition and the clinician. Also they recognize the patient as an individual with individual food habits, individual likes and dislikes, his own family to eat with, and his often limited pocket-book. They have written this book to help the physician bring the results of nutrition research to the benefit of the individual patient.

Much emphasis is placed on the necessity for improvement in "normal" nutrition and the steps that can be taken to affect it. Present defective eating habits, the fact of widespread malnutrition, and low incomes are given their just consideration.

Before touching on diet therapy, the authors devote a section of the book to the physiology of nutrition. This section is well written, completely authoritative, and logically presented. The section on diet therapy is also practical, exact, and thoroughly up to date. The diet lists, however, in the latter part of the book, are based on Scottish food habits and on the foods that are plentiful and inexpensive in Scotland. While this book is highly recommended for use by the general practitioner, it is suggested that he turn to some of the American standard texts for diet lists.

ETHEL PLOTZ BERMAN

The March of Medicine. The New York Academy of Medicine Lectures to the Laity,

[Continued on page 188]

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LAST LETTERS

What becomes of undelivered letters? Here is one that but recently came to light and was published for the first time twenty-seven years after the hand that penned it paid the supreme sacrifice in that other world conflict.

* * *

My darling Mother & Family,

If you open this it will be because that which we fear now, has happened, and Brussels fallen into the hands of the enemy. They are very near now and it is doubtful if the Allied armies can stop them. We are prepared for the worst. I have given dear Gracie and the Sisters the chance to go home but none of them will leave. I appreciate their courage and I want you to let the Jem-meths know that I did my best to send Gracie home, but she refused firmly to leave me. She is very quiet and brave.

I have nothing to leave but the £200 in the pension fund which has never been touched and is mine to leave. I wish Mother to have it with my dearest love. It will supply the place of my little quarterly allowance to her. If I can send my few jewels over will you divide them between Flor and Lil and please send Mrs. McDonnell my long gold chain which she gave me and a keepsake to

Marion Hall. I shall think of you to the last and you may be sure we shall do our duty here and die as the women of our race should die.

My dear, dear love to Mother and Flor, Lil, Jack, Longworth and the children. Also to Eveline McDonnell. God bless you and keep you safe.

* * *

The letter was signed—Edith Cavell, and dated the 19th of August, 1914. Before it could be mailed she was taken a prisoner, her belongings confiscated and the letter went with the rest to help fill the archives of the General Office of Administration.

When the Germans evacuated the city in the closing days of the war, the archives were burned, but the commanding officer, on a sudden impulse, had thrust the letter into his pocket. As a self-appointed exile this soldier died years later in Switzerland. When the envelope containing his will was opened, the letter was found within it.

A reproduction of the original was published in the B. W. R. S. *Salute* and scanning the words one finds it easy to understand why the British have been able to take the brunt of aggression for so many months, and why Democracies can take it.

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Physician in Charge



[Continued from page 186]

1940. Octavo of 154 pages, New York, Columbia University Press, 1941. Cloth, \$2.00.

Appropriately titled, this volume contains the lectures to the laity delivered at The New York Academy of Medicine during 1940. Begun five years ago, the talks have been notable for both the speakers and their subjects.

Included in the present series are six essays dealing, respectively, with the inheritance of mental disease, chemical warfare against disease, the story of our knowledge of the blood, the story of the viruses, the ascent from bedlam (a fascinating discourse on the evolution of modern day care of the mentally ill), and the romance of bronchoscopy.

A fine evening's entertainment will be afforded all who read this book.

MAYER E. ROSS

A Practical Manual of Diseases of the Chest. By Maurice Davidson, M.D. Second edition. Octavo of 575 pages, illustrated. New York, Oxford University Press, 1941. Cloth, \$13.50.

The second edition of this excellent work by Dr. Davidson, whose first edition received such extensive and well-deserved approbation, retains all of the worth-while features of the first, but in order to keep abreast of the times parts have been ruthlessly eliminated and new chapters have been added replete with the most recently acquired knowledge.

In contradistinction to most books dealing with diseases of the chest, this one includes much on the subject of pneumonia and the modern chemotherapeutic attack thereon. An excellent chapter has been added on the subject of "Tomography" with excellent reproductions of same. Altogether, it is a thoroughly profitable presentation of its subject, and we unhesitatingly recommend it as a most helpful reference and textbook for student and practitioner.

FOSTER MURRAY

Science and Seizures. New Light on Epilepsy and Migraine. By William G. Lennox, M.D. Octavo of 258 pages. New York, Harper & Brothers, 1941. Cloth, \$2.00.

This book is an attempt to give a concise statement on present-day knowledge of the nature and treatment of seizures (convulsive and headache). The author has spent many years on the subject and is regarded by his colleagues as an authority on epilepsy and allied disorders. He has contributed materially to the elucidation of the problem and has surrounded himself with a group of young and enthusiastic workers who have produced valuable information and contributions to different aspects of epilepsy.

He has been instrumental in the organization of the Laymen's League Against Epilepsy in an effort to combat the existing ignorance and prejudice about convulsive disorders.

The book contains a rather exhaustive survey of epilepsy, and it presents the practical experiences of the past, as well as the most recent methods of examination and treatment.

There is considerable space given to the subject of migraine. The latter is regarded as allied to epilepsy, and the author produces evidence of such kinship. He speaks of migraine as an

epilepsy of the vegetative nervous system and says that epilepsy may be called a migraine of the brain.

The book is a valuable one and will do much in shedding light on this serious and obscure disease.

IRVING J. SANDS

A Guide to Human Parasitology. For Medical Practitioners. By D. B. Blacklock, M.D., and T. Southwell, Ph.D. Fourth edition. Octavo of 259 pages, illustrated. Baltimore, Williams & Wilkins Company, 1940. Cloth, \$4.00.

A fourth issue of this guide within nine years indicates a demand and usage mainly accounted for by its practical scope. Not at all a parasitologic text, animal parasites pathogenic for man are elaborated in useful detail concisely, simply, and with tabulated data picturing the subject from various points of view. The diagrammatic illustrations, particularly those showing life cycles, are noteworthy features. It is an excellent up-to-date manual, serviceable to public health workers and laboratorians, as well as for that group the title stresses.

IRVING M. DERBY

Abdominal Surgery of Infancy and Childhood. By William E. Ladd, M.D., and Robert E. Gross, M.D. Octavo of 455 pages, illustrated. Philadelphia, W. B. Saunders Company, 1941. Cloth, \$10.

As the authors point out, it has been evident for many years that men doing surgery on infants and young children should have special knowledge of this particular field. They do not suggest that the average general hospital be organized with an exclusive specialty of pediatric surgery but insist that general surgeons who do any major work on these young patients take a special interest and training in the problems involved. This informative book clearly defines the difficulties encountered in the limited field of pediatric abdominal surgery. More than this, many ingenious solutions to these problems are shown, as developed by the staff of the Children's Hospital, Boston.

That their material is plentiful is evident from the fact that their experience includes such groups as 765 pylorotomies and 4,133 inguinal herniorrhaphies. More important, by far, is the disclosure that by their experience they have tremendously improved their results. Hedblom, reviewing the literature in 1931, found that 75 per cent of patients with congenital hernia of the diaphragm died before the end of the first month. In the last 13 such cases operated upon at the Children's Hospital, 11 or 85 per cent have recovered. It is beyond the scope of this review to detail the sound plan of procedure which has produced this result.

There are some minor points with which the reviewer disagrees, as, for example, the idea of the authors that the injection of closed hydroceles is dangerous and useless and that operation is much preferable. We wonder if they have tried quinine and urethane. They entirely condemn the Torek orchidopexy and obtain 80 per cent good results with a much simpler one-stage operation.

[Continued on page 190]

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5. But remember, both fluorescent and incandescent fixtures may waste 50 per cent or more of their light if not cleaned regularly and often.

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FREDERICK T. SEWARD, M.D., Resident Physician
CLARENCE A. POTTER, M.D., Resident Physician

[Continued from page 188]

The reviewer does not hesitate to recommend strongly the thorough study of this volume by any surgeon doing either much or little pediatric surgery. He also looks forward hopefully to one or more volumes by the same authors on the other sections of this specialty. If they have not yet considered producing more, he hopes they will take kindly to this suggestion.

WILLIAM H. FIELD

Medical Manual of Chemical Warfare. Reprinted by Permission of the Controller of His Britannic Majesty's Stationery Office. First American Edition. Octavo of 104 pages. Brooklyn, Chemical Publishing Company, 1941. Cloth, \$2.50.

The *Medical Manual of Chemical Warfare* is an American edition reprinted from the Great Britain War Office, thereby rendering the volume immediately available in the United States without the delays now suffered in overseas transportation. Appendix III is the third edition of the "Atlas of Gas Poisoning," already widely known. Some of the plates in this section, which are reproductions from the U. S. Army Medical Department Record of the World War, are not in color as in the earlier editions.

The chemical, physiologic and pathologic classifications closely follow the previous English writing authors rather than the continental. The general and historical descriptions are brief and concise. Important additions have been made in caring for casualties because of the wider areas now involved by aircraft dissemination far beyond the range of artillery.

The possibility of the use of arseniureted hydrogen as a chemical warfare agent is considered in Chapter V. Chapter VI considers industrial gases that are not used for warfare purposes but may be encountered under war conditions.

CARL W. LUPO

Clinical and Experimental Investigations on the Genital Functions and Their Hormonal Regulation. By Bernhard Zondek. Octavo of 264 pages, illustrated. Baltimore, Williams & Wilkins Company, 1941. Cloth, \$4.50.

In this book Dr. Zondek summarizes his clinical and experimental observations since January, 1935. The subject of genital function and the various hormones associated with this process is completely reviewed, and many original observations are recorded. He showed that estrogenic and androgenic hormones are readily absorbed and are effective through the skin. He administered large doses of estrogenic hormone to chickens, rats, and cocks, thereby eliminating the somatotrophic and gonadotropic function of the anterior pituitary lobe and produced dwarfism and marked atrophy of the genitals. Moreover, many of the animals, regardless of sex, developed pituitary tumors as a result of prolonged administration of estrogen.

The chapter on the "Fate of Sex Hormones in the Organism" is interesting, while his theory on the "Mechanism of Menstruation" is original.

The monograph contains a large bibliography, and the material is well presented and arranged and employs many illustrations and tables to emphasize the subject matter.

This book should be of interest not only to investigators working along these lines but also to the clinician who is called upon to treat such problems.

MORRIS GLASS

Contact Lens Technique. A Concise and Comprehensive Textbook for Practitioners. By L. Lester Beacher, Sc.D. Second edition. Octavo of 125 pages, illustrated. New York, the author, 1941. Cloth, \$3.50.

This little volume apparently written for the optometrist will doubtless be helpful as a guide to the fitting of the well-known contact glasses. There is a tendency to make this minor procedure sound formidable, but this arises from the apparent need to describe certain details that one would not need to elucidate for those medically trained.

The author says that the use of a local anesthetic is superfluous and, of course, this is so in a mechanical sense; but we doubt if the patient would agree if he had the opportunity to compare a fitting with and a fitting without the use of an appropriate anesthetic.

The section on buffer solution is not well presented, and the author does not discuss all the dangers and advantages sufficiently. He even suggests the use of distilled water which, of course, is not well tolerated by the eye. He should recognize the therapeutic aspects of buffers and discuss their biologic effect and purpose. It seems a bit unusual in a scientific work on technic to insert a section on "Fees." Perhaps this is technic also.

Though this is doubtless useful, its reliability is greatly limited by the fact that the only bibliography is that of the author, and much of this does not refer to contact glasses. A voluminous literature has appeared on the subject in the last fifteen years to which the author has made no reference.

JOHN N. EVANS

A Primer for Diabetic Patients, An Outline of Treatment for Diabetes with Diet, Insulin and Protamine-Zinc Insulin. Including Directions and Charts for the Use of Physicians in Planning Diet Prescriptions. By Russell M. Wilder, M.D. Seventh edition. 16 mo. of 184 pages. Philadelphia, W. B. Saunders Company, 1941. Cloth, \$1.75.

This small practical book is designed to help those suffering from diabetes, as well as those interested in the subject.

The book is written in a clear, concise manner. It is presented in nine sections in which the nature of diabetes is explained; the necessity for the various forms of insulin is stated, and many facts are presented which allow a clear understanding of the subject. In particular, complications or disturbances apt to occur in the diabetic patient are discussed and presented in a clear fashion. Diets and diet recipes are explained.

This revision was necessitated to describe an improvement in the procedure of administering protamine-zinc insulin. It is recommended highly for the intelligent understanding and knowledge it conveys to the diabetic patient.

EUGENE R. MARZULLO

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Editorial

War Surgery

The proper care of war injuries—trauma of every description, damage by poisonous gases, and burns of all kinds—is now a matter of immediate importance. The success of treatment must be gaged not only by preservation of life and function but also by economy of effort and hospitalization.

War medicine and war surgery must be geared to this point of view. Proper care means the best of immediate treatment in order to prevent unfortunate and unnecessary sequelae and to avoid prolonged hospitalization for reconstructive measures.

To accomplish this, the Council Committee on Public Health and Education is now taking immediate steps to provide instruction, both didactic and clinical, in war medicine and war surgery—especially plastic and reconstructive surgery—as part of its postgraduate instruction for the current year. Some of the technics of such surgical care, both immediate and later, are new, and many physicians are not familiar with them either for their own use or for rapid recognition of condi-

tions that should be referred to specialists in these technics. This care presupposes the highest quality of first aid and also proper preparation of injured tissues for later surgical procedures.

We are now engaged in what should rapidly develop into an offensive war. This will undoubtedly be accompanied by enemy attacks on the continental United States in the course of time. Last year, in anticipation of the eventual necessity, a plan was proposed for offering instruction in plastic and reconstructive surgery as part of the medical preparedness program of the Medical Society of the State of New York. As a result of this foresight, eighteen well-qualified surgeons quickly responded to the request for their services as teachers.

The Society is, therefore, fortunate in that having foreseen the probable necessity for increased instruction in plastic and reconstructive surgery and set up the teaching facilities it will be possible to expand these courses rapidly now that war conditions make this imperative.

Delayed Registration Certificates

Many physicians may not yet have received their 1942 certificates of registration from the Department of Education. The JOURNAL has had some inquiries about the delay. We are informed under

date of January 9, 1942, by Dr. Joseph S. Lawrence, executive officer of the Society, that "the Department of Education is doing its utmost to supply the physicians with their 1942 registration certificates

but has been greatly delayed, first by the installation of new recording machines, and now by a lack of clerical service.

"Physicians who have applied for re-registration are assured that they will receive their certificates at an early date, and in the meantime they need not fear that they are violating the law by continuing their practice."

The Department of Education has asked that this information be conveyed to the physicians of the state, and we bespeak the tolerance of those who have not

received their certificates. It is probable that conditions due to the war, restriction and reduction of operating personnel arising from the new Selective Service demands, and other unpredictable conditions will make it difficult for many departments to maintain their otherwise prompt and efficient service to the physicians of the state. The delays will, however, be accepted with patience and good nature and with a real appreciation of the efficiency with which these services have been maintained in the past.

Fewer Tires, Fewer Fatalities?

The recent restrictions on the sale of new rubber automobile tires may have some interesting results in 1942. What, for instance, will be the effect of the rationing upon the motor-vehicle accident deaths? The deaths from this cause in 1941 were about 39,500¹ or more than 14 per cent as compared with 1940, a gain of about 5,000 deaths over the previous year. In the same period, "data now available indicate that there may be some 1,500 more fatal accidents to persons at work in 1941 than in 1940." This rise in industrial fatalities might have been anticipated because of the greatly increased industrial activity throughout the year 1941. But the increase in motor-vehicle accident deaths for the same period seems to be inordinately large. It is now alleged that for "more than a decade... motor-vehicle fatalities have been the leading class of fatal mishap."

¹ Statistical Bulletin, Met. Life Ins. Co. 22: No 12, 9 (Dec) 1941.

Will the restrictions now in force relating to the use of new tires for automotive vehicles affect the accident total for 1942 and, if so, how? By decreasing the volume of traffic, it would be anticipated that these restrictions would tend to reduce the total. On the other hand, it is possible that the forced use of worn-out treads or recapped casings may increase the severity of those accidents that do occur and thus considerably raise the number of fatalities. This is the more probable since it seems inevitable that crowding of many vehicles will occur as fewer tires of any kind become available.

Until satisfactory substitutes for rubber make their appearance, more careful and considerate driving will, we hope, help to reduce the highway accident toll. It may not be too much to hope that some of the safety habits acquired during this period of tireless tranquilization may survive it. The figures will show.

Federal Regulation of Insulin Standards

On December 24, 1941, the protection to users of insulin afforded by control of the product by the University of Toronto ceased through expiration of the patent.

However, on December 22, 1941, the President of the United States approved H.R.6251 (Public Law 366), a bill to

amend the Federal Food, Drug, and Cosmetic Act by providing for the certification of batches of drugs composed wholly or partly of insulin. The necessity for the legislation stemmed from the expiration of the insulin patent held by the University of Toronto under which standards of

purity and strength of insulin have been adequately maintained. Under the new law the Federal Food, Drug and Cosmetic Act is so amended by Section 1 that its prohibitions against "forging, counterfeiting, simulating, or falsely representing, or using identification devices without proper authority, will apply in the case of such identification devices as may be required or authorized for insulin." Section 2 of the amended Act provides that a drug shall be misbranded "if it is, or purports to be, or is represented as a drug composed wholly or partly of insulin, unless (1) it is from a batch with respect to which a certificate or release has been issued under regulations to be promulgated by the Federal Security Administrator and (2) such certificate or release is in effect with respect to such drug."

Section 3 directs the Federal Security Administrator to establish standards of purity, quality, identity, and strength for

drugs composed partly or wholly of insulin; to determine and set out in regulations schedules of fees which will cover the cost to the Government of equipping and maintaining the facilities and compensating the personnel required for making adequate tests and assays. Section 4 directs the promulgation of these regulations within forty-five days.

Provision is made also in Section 3, for the release by the Administrator prior to the promulgation of regulations, of insulin which, in the Administrator's judgment, may be released without risk as to safety and efficiency. This permits him to release for prompt use batches of insulin which have already been passed by the Insulin Committee of Toronto University. Any risk of a shortage is thus avoided with safety for the more than 1,000,000 users in the United States, who spend for it annually some \$15,000,000.

Common Sense

The Nassau Medical News¹ comments on nutrition:

Forty-five million people in the United States "lack the foods we know are essential for health . . . another 50,000,000 have impaired health because they do not eat the right food." Thus does Dr. Logan Clendenning in a recent issue of the *J.A.M.A.* quote Paul V. McNutt, coordinator of health, welfare and related defense activities.

Mr. McNutt's statement as quoted above falls into the category of one of those things. It is general, comprehensive, arresting, and conveniently quotable. It is positive. It conveys the impression that, in Mr. McNutt's mind, there is no shadow of doubt that this is so. The presumption is that he has information on this matter of which he does not question the source or the reliability. If he did, presumably he would not have made the statement or would at least have qualified it.

The statement was apparently made for the purpose of informing the public of something which the public ought to know. It contains a diagnosis: "50,000,000 people have impaired health because they do not eat the right food." No ifs, ands, or buts about that, is there? Another 45,000,000 "lack the foods we know are essential for health." This seems to be a severe, possibly an unintentional, criticism of an administration that has been distributing agricultural surpluses to the needy for a long time. And is it possible that the slaughtering and plowing under of many products of the farm could have anything to do with the "lack of foods we know are essential for health?"

It is perhaps more comprehensible if we employ the device of *hysteron proteron*² in Mr. McNutt's behalf. If, say, "50,000,000 people have impaired health because they do not eat the right food," they and another 45,000,000 do so be-

¹ Food—Eat It or Take It 15: No. 10 (Nov.) 1941.

² Cart before the horse.

cause they "lack the foods we know are essential for health," then we may inquire: why? There must be a reason. Is the Administration's farm policy being called in question by the Coordinator of Health, Welfare and Related Defense Activities? Or is there some reason other than this, as yet undisclosed, why the head man of the Security Administration is all at once concerned with the impaired health of 95,000,000 potential voters?

The Nassau Medical *News* says that:

"Dr. Clendenning doubts these figures and counters with the report that out of some 338,000 hospital records studied he found only 483 patients recorded as coming within the medical understanding of 'impaired health because they do not eat the right food.'"

We are relieved to learn that the effects of the Administration's policy of scarcity are not quite so bad as Mr. McNutt fears and that the public's eating habits are not so bad as they are implied to be.

"The National Nutrition Conference," says the Nassau Medical *News*, "drew up a nutritional 'gold standard' which would

include: one pint of milk for an adult and more for a child (evaporated milk may be used instead of fresh); a serving of meat (cheaper cuts are just as nutritious); one egg or some suitable substitute such as navy beans; two vegetables, one of which should be green or yellow; two fruits, one of which should be citrus, tomato, or similar (canned orange juice is the cheapest source of vitamin C); some butter or oleomargarine with vitamin A added; breads, flour, and cereal, preferably whole grain or enriched.

"If the daily diet stays on this gold standard and the individual develops a vitamin or mineral deficiency, it is safe to say that the problem is one for the physician to solve, not for the radio announcer, the newspaper advertiser, or the street corner health advisor.

"It is not only safer but very much cheaper to eat your food rather than take it in the form of pills, powders, or capsules. Consider the vitamin concentrates as medicine and take them only on the advice of your own doctor."

Washington papers please copy.

Correspondence

American Congress on Obstetrics and Gynecology

To the Editor:

In this time of stress there should be a definite interest in the welfare of the mothers and babies of the nation. The Committee that is sponsoring the next American Congress on Obstetrics and Gynecology, to be held in St. Louis on April 6 to 10, 1942, represents the only organization outside of governmental bodies which has attempted to unite the efforts of voluntary and other agencies to carry out the widely disseminated plans for the care of women and children. Opportunity for the presentation of advances in obstetric and gynecologic knowledge will be afforded to the many groups interested in these

problems at a nation-wide gathering of this kind. The directors of the project believe that notwithstanding the war situation the Congress should be held at the stated time and are proceeding with their plans to make of this an outstanding gathering. Further details of the program will be communicated as these are made available. Inquiries may be addressed to the Central Office, 650 Rush Street, Chicago.

GEORGE W. KOSMAK, M.D.
Chairman, Committee on
Medical Publicity

December 26, 1941



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Symposium on Pyelonephritis

THE EFFECTIVENESS OF THE SULFONAMIDES ON THE BACTERIA ENCOUNTERED IN INFECTIONS OF THE UPPER PART OF THE URINARY TRACT

ROSCOE C. BORST, M.D., F.A.C.S., Utica, New York

PRIOR to Domagk's discovery of prontosil and its effective treatment in staphylococcal and streptococcal infections eight years ago, the chemotherapy of systemic bacterial diseases was disappointing.

During the intervening time, sulfonamide derivatives have been introduced which are highly effective against systemic bacterial invasions. This period has been called "epochal in the history of medicine." The volume of observations and reports is enormous and rapidly increasing. Frequently, these are speculative and of little value; hence, it appears that a study and survey of the efficiency of the sulfonamide compounds in urologic infections may be helpful.

History

Thirty-four years ago Gelmo synthesized sulfanilamide, but its therapeutic value was neither suspected nor studied.¹ In 1932 Domagk's investigations in the preparation of azo dyes with the sulfonamides resulted in the production of a substance that was introduced to the world one year later by Dr. Foerster as prontosil. This in the opinion of many observers constitutes the greatest therapeutic discovery in modern medicine and relegates salvarsan to second place.

In 1936 Nitti and Boret found that prontosil was split by the tissues to liberate sulfanilamide—the chemotherapeutic portion. This preparation was not patented and led to the production of a great number of new derivatives. Many manufacturers unwisely exploited their products, requiring the Council of Pharmacy and Chemistry to untangle the existing confusion by recognizing only proved derivatives.

Sulfapyridine was presented to the profession in 1938 and sulfathiazole followed in the ensuing year. Previous to the introduction of these, pyridine and serenium made their appearance as urinary antiseptics—the former in 1926 and the latter in 1930.

Fortunately, the present Food and Drug Act has required all the derivatives of sulfanilamide, with the exception of the "elixir of sulfanilamide," to have a substantial investigation and application. The Council of Pharmacy and Chemistry of A.M.A. has recognized only three of these—namely, sulfapyridine, sulfathiazole, and sulfadiazine. Another, by the time this article is printed, will be accepted—namely, sulfaguanidine.

The sulfonamide drugs are: prontosil, sulfanilamide (prontylin), neoprontosil, sulfapyridine (dagenan, M and B 693); sodium sulfapyridine, sulfathiazole, sodium sulfathiazole, sulfamethylthiazole,* sodium sulfamethylthiazole,* sulfadiazine,* sodium sulfadiazine,* sulfaguanidine, dodeconoyl sulfanilamide.*

Mechanism of Action

Numerous theories have been advanced to explain the mechanism of the antibacterial action of the sulfonamide chemicals. At the present writing the most accepted theory has been advanced by Long and Bliss.³

During the process of invasion, bacteria have a natural oxidative action in the tissues which creates the formation of hydrogen peroxide. This is removed normally by the catalase present in the blood and tissues. The oxidation of the sulfonamides inhibits this catalase action preventing the hydrogen peroxide removal. It thereby accumulates in the tissues and either inactivates or destroys the bacteria.

Since all of the sulfonamide derivatives are not equally effective on all types of bacterial infections, it at once becomes obvious that the proper selection is of the greatest importance. This obviously requires accurate bacteriologic study and isolation of the specific invading organism.

The question of the volume of fluid intake with cases receiving the various sulfonamide derivatives is of the greatest importance.

* These drugs are under investigation.

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 29, 1941.

Inadequate blood concentration will be obtained if more than 3,000 cc. of fluids each twenty-four hours is taken when prescribing sulfanilamide. This drug does not directly damage the kidneys.

When sulfapyridine or sulfathiazole is being prescribed, the administration of greater fluid intake is a necessity. This is due to the fact that in too concentrated urines the precipitation of the insoluble acetyl sulfapyridine or the nonsoluble acetyl sulfathiazole will occur. This creates tubular blockage and becomes the precursor to renal calculi formation. Therefore, the urine output should be kept at 1,000 cc. or more for each twenty-four hours. The presence of these crystals in voided urine is never an indication for stopping the drug. The appearance of gross hematuria, however, is a frank indication.

The acetylated form is a severe hindrance. It is created by the liver in conversion from 10 to 60 per cent of the total amount of the drug administered and yields toxic derivatives. The crystals may be precipitated out, as previously stated, to mechanically block the kidney tubules and form concretions.

The elimination of food with a high sulfur content, as well as the sulfates, has been too severely stressed. Long states that "there is not a bit of data available which would lead one to believe that such a superstition has any foundation in fact." The exception is the use of the present intravenous anesthetics containing barbiturates—not the sedatives.

Prophylactic Value

In those cases where there is danger of a rapid spreading of infection—such as post-operative peritonitis, cellulitis, pyelonephritis following pyelotomies, nephrostomies, cystotomies, and other surgical procedures where infection may be introduced into healthy nonresistant tissue—the sulfonamides have prophylactic value. This requires establishment of effective blood concentration of the drug over a brief period and is entirely dependent upon their rates of absorption and excretion.

Prontosil in aqueous suspension and sulfanilamide in oily suspension are absorbed and excreted slowly when injected subcutaneously. Hence, their prophylactic value is excellent. If, however, the prontosil is given by mouth, its value is less marked and nil with sulfanilamide. Therefore, with slow absorption and excretion prophylactic value is good; if the reverse is true, it becomes slight.

As each derivative has been introduced,

desirable information pertaining to its absorption, distribution, action, excretion, and toxic effects it possesses has been studied.³

Successful therapy depends upon the maintenance of a definite concentration of the drug in the blood. The choice of the derivative to be employed in a given infection should be accurately selected. Also, it is imperative to know that drug's behavior in the body, as well as its effectiveness.

Sulfanilamide when injected is well absorbed from the gastrointestinal tract, equally distributed throughout the body tissues, and properly excreted with normal renal function. Even in renal damage it is well eliminated.

Sulfapyridine is irregularly absorbed by different individuals and by the same individual. It is fairly well distributed throughout the tissues and conjugated by the liver to the inactive acetyl derivative in a higher degree than either sulfanilamide or sulfathiazole. Sulfapyridine is excreted by the kidney more slowly than either sulfanilamide or sulfathiazole and appears in the practically insoluble acetylated form, where it crystallizes out.

Sulfathiazole is rapidly absorbed and rapidly excreted when kidney function is normal. If renal function is decreased, preventing elimination and thereby retaining the drug in the body over a period beyond normal, its rate of conjugation increases. The drug is excreted so rapidly by the kidney that conjugation⁴ cannot be complete and, therefore, is not converted in large amounts to the acetyl form. Adequate blood concentration, therefore, is difficult to maintain, and an inefficient therapeutic effect may result. The spinal fluid absorbs lesser amounts of the drug than either sulfanilamide or sulfapyridine, and this absorption is inadequate for efficient bacteriostatic effect in all of these. Sulfadiazine, fortunately, is absorbed in the spinal fluid in sufficient concentration to be therapeutically active.*

Urinary Infections

Successful treatment of urinary infections may require concentrations in the urine of the free drug as high as 300 mg. per hundred cubic centimeters for approximately seven days. With unimpaired renal function, this may be maintained by controlling the daily ingestion of both the drugs and fluids.

The sulfonamides actually produce bactericidal action in many urinary tract infections when the hydrogen ion and drug con-

* Dr. Norman Plummer.

centrations are optimal. This is due to the fact that urine concentrations are reached which are ten to forty times higher than those attained in the blood. Then, too, the urine is a poor medium for bacterial growth. This combination of poor environment and high concentrations results in bactericidal action not procurable in other tissues.

The intelligent use of the sulfonamides is based more on bacteriologic than clinical diagnosis, and their indiscriminate use without the former obviously should be discouraged. This fact becomes more impressive as we continue.

While antibacterial action may occur in all hydrogen ion concentrations, better results are obtained with a pH value of 7.0 or 7.5. It may be necessary, therefore, to combine an alkali such as sodium bicarbonate (3 to 5 Gm. per diem) with each dosage. The exception is with *Streptococcus fecalis*, where a lower pH value is more effectual. Alkaline urine in itself, as it is formed in the body, is neither bactericidal nor bacteriostatic.

We have come to learn through trial and error that frequent complicating urologic lesions will modify progress and results with these drugs. Purulent foci must receive adequate attention lest the bacteriostasis leads to false security, since recovery appears symptomatically complete only to relapse with the drug's withdrawal. This inhibition of the acute invasive manifestations is preceded by the reinvasion of the tissues from hidden foci. These deep-seated infected areas and pockets, created particularly by stasis, lithiasis, chronic pyelonephritis and pyohydronephrosis, ureteral and bladder obstructions, diverticula, and localized renal abscesses, become the major problem with those cases, having repeated exacerbations and retarding or preventing complete eradication.

One is able to estimate accurately the urinary concentration of both the free and conjugated forms of sulfanilamide, sulfathiazole, and sulfadiazine when the daily dose and fluid intake are known. As an example, since approximately 90 per cent of the drug is excreted in the urine, 4.5 Gm. will be excreted with a dose level of 5.0 Gm. ingested. Assuming a urinary output of 1,000 cc. in twenty-four hours (fluid intake of about 1,500 cc.), the concentration in the urine will be 450 mg. per hundred cubic centimeters. Inasmuch as half of the excreted drug is in free form, the concentration of the free portion will be approximately 225 mg. per hundred cubic centimeters.

Excretion

The ability of the kidneys to excrete the sulfonamides should be determined by the phenolsulfonphthalein excretion test whenever necessary. Since more than 93 per cent of the drug is eliminated through the renal parenchyma, poor kidney function would delay the excretion sufficiently to create a toxic state in an otherwise safe dosage. Long and Bliss gave a single dose of sulfanilamide to a uremic patient and found no variation in the blood concentration during a seven-day observation period.

Normally, the drug is rapidly eliminated with adequate fluid intake and renal function unimpaired. No host is entirely free of the drug within three days.

Toxic Manifestations

Only the important toxic manifestations created by the sulfonamide derivatives will be discussed in this article. A complete summary of this phase of the work may be obtained in the monograph by Long and Bliss.³

A wide variety of toxic reactions are produced with therapeutic doses. It is important to recognize these symptoms and to differentiate them from the illness itself. The federal control of the sale of these drugs represents a commendable advance in the protection to the public against their indiscriminate use.

Nearly all patients receiving the sulfonamides experience mild toxic reactions which usually appear within the first forty-eight hours and particularly so if the case is ambulatory.

The milder manifestations of toxicity are not necessarily the precursors to the more severe symptoms, because the latter depend almost exclusively on high blood concentrations from excessive dosage or idiosyncrasy.

The mild nausea and vomiting commonly observed may be partially alleviated or totally abolished by the use of nicotinic acid, giving 50 mg. with each dose. More uniform results have been observed with the employment of mucilage of tragacanth (made fresh daily) by adding a dram with each dose of the drug. I have found that the use of citric acid, 14 per cent, combined with sodium citrate, 9 per cent, prescribed in dram doses and administered with the drug serves the double purpose of allaying the vomiting and also relieving and preventing acidosis.

The more important toxic manifestations are shown in Table I.

TABLE 1.—SULFONAMIDE THERAPY—TOXIC REACTIONS

Blood	Gastrointestinal
Anemia	Nausea and vomiting
Simple	Dehydration
Acute hemolytic	Acidosis
Aplastic	Diarrhea
Leukopenia	Dehydration
Granulocytopenia	Acidosis
Agranulocytosis	Skin—Drug Rash
Hyperleukocytosis	Purpura
Cyanosis	Morbilliform
Liver	Erythema
Hepatitis	Scarlatiniform
Jaundice	Erythema nodosum
Kidney	Nervous System
Hematuria	Neuritis
Colic-loin pain	Headache
Anuria	Psychosis
Calculus formation	Mental depression
Nitrogen retention	Delirium
Uremia	Drug Fever

The more serious effects of these derivatives are related to the blood, bone marrow, and the skin. Blood counts should be done every other day to recognize in its inception the sudden developing anemia or the change in the number or character of the white blood cells. Granulocytopenia may occur as late as six days after the drug has been discontinued.

The prescribing of the barbiturates during sulfonamide therapy is not dangerous for the host, but pentothal sodium as an intravenous anesthetic is contraindicated since definite injury to the liver may follow.

These chemotherapeutic drugs vary greatly in their production of toxic symptoms. Of the several discussed, sulfapyridine is the greatest offender, and toxic manifestations may be expected to occur four times more frequently than with sulfanilamide. Sulfathiazole is less toxic than sulfanilamide, and sulfadiazine is decidedly less toxic than either of these. Because of the low degree of absorption of sulfaguanidine, no toxicity has been observed. This drug, however, has yet to receive a broad use. Cutaneous eruptions appear more commonly after sulfathiazole than the other derivatives and carry with them a high incidence of conjunctivitis.

Contraindications

Because of the mad rush to introduce or prescribe the sulfonamides and their derivatives, a thorough and complete study of this phase of the pharmacology has not been completed. However, I will state that the drug should be withheld from patients who have shown an idiosyncrasy or sensitivity to previous sulfonamide therapy. Also, these drugs should not be prescribed to patients

having a severe anemia, leukopenia, hepatitis, or extensive renal damage.

The sulfonamides differ in several important respects from mandelic acid. Each of these preparations have their separate indications and supplement each other.

Sulfonamides have the advantage that they are effective at all urinary pHs but are decidedly more active in an alkaline urine. Mandelic acid is effective only in distinctly acid urines and with undamaged renal tissue.

Sulfonamides are cheap but toleration varies. It may be administered by more than one route, whereas the acid can be taken only orally. Sulfonamides do not provoke acid base, balance disturbances, which is a distinct advantage in acutely ill and febrile patients and those with impaired renal function. The sulfonamides clear urinary infections caused by urea-splitting organisms, such as *Bacillus proteus*, which are unaffected by mandelic acid. It is effective against *Str. fecalis* whereas the sulfonamides fail, although, recently, Helmholz has shown that sulfathiazole has considerable bactericidal action against this organism. Sulfadiazole and sulfadiazine frequently are excreted in sufficiently high concentration by impaired renal tissue to be bactericidal.

Tables 2 and 3 show the organisms upon which sulfanilamide and mandelic acid are effectual.

How impressive the literature is on the dangers of sulfonamide therapy in the presence of depressed renal function and increased blood nitrogen. But it has not impressed us on the efficiency of these drugs in small doses with the kidney function below par. To be sure, extremely careful observations

TABLE 2.—SULFANILAMIDE

Effectual	Ineffectual
<i>Escherichia coli</i>	Hemolytic streptococci, Group D
<i>Aerobacter aerogenes</i>	<i>Str. fecalis</i>
<i>Salmonella</i>	Nonhemolytic green and hemolytic enterococci
<i>Shigella</i>	
<i>Bacillus influenza</i>	
<i>Staphylococcus albus</i> and <i>aureus</i>	
<i>Pseudomonas aeruginosa</i>	
<i>Alcaligenes</i>	
<i>Bacillus pyocyaneus</i>	

TABLE 3.—MANDELIC ACID

Effectual	Ineffectual
Same as sulfanilamide*	<i>Staph. albus</i> and <i>aureus</i>
Enterococci	<i>B. proteus</i>
<i>Str. fecalis</i> †	<i>B. pyocyaneus</i>

* Refer to Table 2.

† Refer to Table 4.

are required and good judgment and frequent blood readings are essential in the control of infection and in preserving renal tissue.

There is Helmholtz's⁵ spectacular result in a 16-year-old boy who had been under observation for seven years and who eventually had the infection cleared from the urinary tract. The case had bilateral, infected hydronephrosis, megaloureters, a huge dilated bladder, and a posterior urethral obstructing value. During the interval, his weight increased from 52 to 106 pounds and the blood urea concentration increased from 60 to 160 mg. per hundred cubic centimeters. During 1939 his urea concentration was never less than 150 mg. with the urine clear and a minimal number of bacteria. Of the sulfonamides, sulfanilamide was selected and prescribed in a dosage sufficient to maintain a concentration ranging from 16 to 42 mg. per hundred cubic centimeters of urine. With this technique the urine cleared of *E. coli* infection for three days, only to return immediately. Sulfathiazole therapy was substituted in November, 1940. On a dosage of 4 grains, six times daily, the *E. coli* infection disappeared and was replaced with pseudomonas. That dosage became intolerable during February, 1941, and was reduced to 2 grains twice a day. This was well tolerated and, surprisingly, the urine became clear with only a minimal number of bacteria present. Such results are encouraging, since the conservation of renal tissue is the *sine quo non* in such patients.

This observation plus further experimental work by Helmholtz shows sulfathiazole decidedly superior to sulfanilamide as a urinary antiseptic in concentrations from 10 to 30 mg. per hundred cubic centimeters of urine and makes possible the effective use in cases with damaged kidney tissue. Oral doses as low as 5 to 10 grains per diem render surprisingly satisfactory results.

This work, which is summarized in Table 4, is impressive.

Sulfathiazole

This drug, which was introduced in 1940, is of great interest to the urologist since it is more effective than sulfanilamide and sulfapyridine in the treatment of infections of the urinary tract.

It is rapidly and quite adequately absorbed from the intestinal tract and is much less toxic and well tolerated by the oral route, rarely causing gastric distress.

As its fate and excretion are quite similar to

TABLE 4.—SULFATHIAZOLE

Organism	Best pH Value	Bactericidal Urine Concentration	Bactericidal Concentration in All pH Values, Mg./100 Cc.
Staph. aureus	7.5	7 mg./100 cc. in 75 per cent of cases	25
Proteus ammoniae	7.5	25 mg./100 cc. in 94 per cent of cases	150
Str. fecalis*	5.5	50 mg./100 cc. in 58 per cent of cases	300
Ps. aeruginosa		Hydrogen ion concentrations of little value	300
A. aerogenes	7.5	25 mg./100 cc. in 90 per cent of cases	Not procured
E. coli	7.0	25 mg./100 cc. in 60 per cent of cases	200

* Refer to Table 3.

sulfanilamide, this phase will not be discussed. It is advisable to draw attention to the relative insoluble acetylated forms (being three times less soluble than acetyl sulfanilamide), which may precipitate out, in the renal tubules and the urinary tract.

Sulfathiazole has shown its bactericidal effects in practically all types of organisms which invade the urinary tract. Its greatest benefit lies in its superior antibacterial action on staphylococci and on *Str. fecalis*. As with the other sulfonamides, complicating co-existing pathologic processes in the tract decrease its efficiency, particularly those creating stasis and obstruction. The percentage of the total amount of sulfathiazole present in the urine as acetyl sulfathiazole ranges between 10 and 30 per cent. This percentage is lower than those for sulfapyridine and sulfanilamide. The free form (active bactericidal) is not so freely excreted as sulfanilamide by damaged renal tissue.

Sulfapyridine

Because of its relative insolubility, sulfapyridine is absorbed from the intestinal tract at a much slower rate. Like sulfanilamide, it is acetylated in the body. The amount, however, is unpredictable and tends to run higher so that the dosage necessary for optimal blood levels of the active free portion cannot be made uniform. This drug is excreted at a much slower rate than sulfathiazole, tending thereby to a cumulative toxic quantity and requiring caution with impaired renal function. The more active the renal infection, the quicker will renal complications develop with this derivative.

Complications of Sulfapyridine

The renal complications associated with

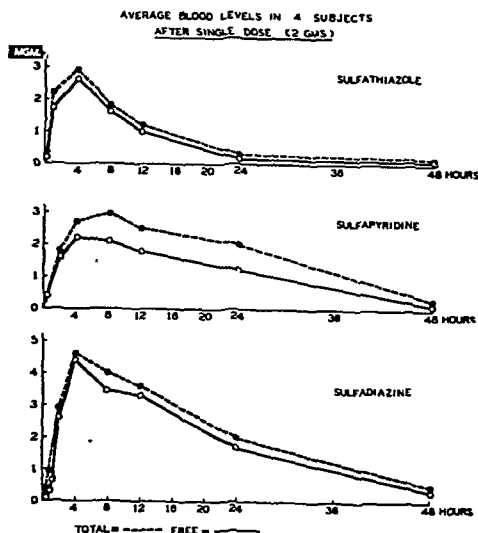


FIG. 1.

sulfapyridine are dependent on two factors: first, the precipitation of the crystals; second, the oliguria.

Because of the poor solubility of the conjugated derivatives, crystals precipitate out of the urine and lodge in the renal tubules, pelves, ureters, and bladder. Renal function becomes impaired by this mechanical plugging and complete anuria follows. These complications require daily microscopic examination of the urine. Cystoscopic manipulation and ureteral lavages have been necessary to loosen these crystals.¹³

The crystals that may be precipitated from both an alkaline and acid urine consist of about 70 per cent of the insoluble conjugated form rather than the free sulfapyridine. They are not opaque to x-rays but will create negative shadows. The rate of precipitation cannot be altered by prescribing alkalis. The crystals appear in irregular friable white masses. Microscopically, the crystals are colorless, flat, thin plates, are pointed or wedge-shaped, and are joined together in triangular bundles.

Hematuria occurs in 25 per cent of all cases and children are more prone to develop renal complications.

At this point it is fitting to state that because of the uncontrollable damage sulfapyridine may create it should have no place in the urologists' therapeutic armamentarium. The other sulfonamide derivatives, as have been mentioned, have greater efficiency and

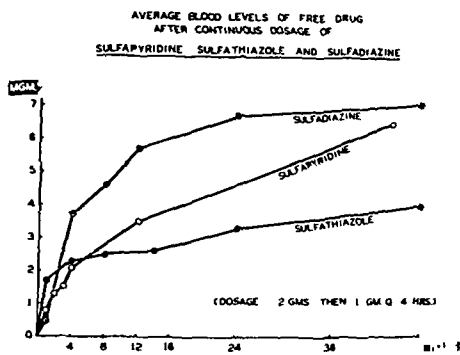


FIG. 2.

are much less injurious to the renal parenchyma.

In the same voice, the urologist must be acutely aware of its dangers. He should be accurate in recognizing its damaging and destructive effects and quick to remove the mechanical obstructive material.

Newer Drugs

Within the past two years new sulfonamide derivatives have been drawn to our attention. Two of these, sulfadiazine and sulfaguanidine may be destined to become the Utopia in the urologists' therapeutics. Definitely, they will replace the earlier developed preparations.

Sulfadiazine

Sulfadiazine was synthesized by Roblin, Williams, Winnek, and English,⁶ and the experimental animal data pertaining to toxicity, absorption, and chemotherapeutic activity were completed by Feinstone, Williams, Wolff, Hunington, and Crossley.⁷

The excellent study of the absorption and excretion of sulfadiazine by Plummer⁸ has done much to stabilize its dosage and demonstrate its efficacy.

The comparative blood levels after a single 2-Gm. dose between sulfathiazole, sulfapyridine, and sulfadiazine are shown in Fig. 1. This figure shows that sulfadiazine is rapidly absorbed and that a higher blood concentration is reached than with either sulfathiazole or sulfapyridine with the same dosage.

Traces of the drug remain after forty-eight hours showing a slower renal excretion than either sulfapyridine or sulfathiazole.

In another series, 2 Gm. of sulfadiazine was administered as an initial dose, followed by 1 Gm. every four hours until a total of 16 Gm. had been given.

Fig. 2 shows the blood level of sulfadiazine to be higher than either sulfapyridine or sulfathiazole. The blood level fell slowly after the drug was discontinued, and even at the end of forty-eight hours there still remained a trace of the drug.¹

The total amount of the excreted drug reclaimed in the urine ran as high as 12.7 Gm. out of a total of 16 Gm. ingested. Such an amount compares favorably with the other drugs in this group and is proof that over 90 per cent is excreted by the kidneys.²

In this same series no kidney irritation was demonstrable. Renal function tests and blood nitrogen and urea always remained within normal limits. Neither gross nor microscopic blood appeared and the tests for albumin were negative.¹⁰ The stomach tolerated the drug exceedingly well; the dreaded annoying symptoms of nausea and vomiting did not occur.

For its distribution in the body, reference is directed to Reinhold, Flippin, and Schwartz's article in the *American Journal of Medical Sciences*.⁹

Toxic effects simulate sulfanilamide, sulfathiazole, and sulfapyridine but to a much lesser and milder degree. Dermatitis and vomiting have been observed but in infrequent occurrences. As a contrast to the other sulfonamides, it can be said that the development of toxic manifestations is not expected when used within proper therapeutic ranges.

Sulfadiazine is absorbed rapidly from the intestinal tract, and effective blood concentrations are reached within two to four hours. Like its sister compounds, the elimination is over 90 per cent through the kidneys. Its excretion develops slowly but within forty-eight hours reaches amounts comparable to the others. Therefore, because of efficient absorption and its early relatively low rate of excretion, smaller doses are required to maintain a given blood concentration. It is more soluble than sulfanilamide, sulfapyridine, or sulfathiazole, with a greater percentage of the active free drug present in the blood stream. The crystals of both the acetylated derivatives and the free form are extremely soluble so that renal damage is nil. The drug appears active to a bactericidal degree in undamaged renal tissue. It is eliminated without renal injury in at least bacteriostatic concentrations by the damaged kidney. Preliminary observations have shown encouraging results in infections of the upper part of the urinary tract created by the colon group of organisms, *Str. fecalis*, and *proteus*.



FIG. 3. Sulfadiazine crystals.

A photomicrograph of the sulfadiazine crystals is shown in Fig. 3. They appear as many short fine strands tightly bound together in a central stalk branching out broadly like a treetop with the other extremity less broad and smaller.

Sulfaguanidine

Little data are available pertaining to this drug. The enthusiasm shown by the original workers is sufficient¹¹ for me to draw it to your attention.

The drug's solubility is approximately 2 per cent, thereby being nontoxic. Its merit lies in its ability to act as an intestinal antiseptic or at least prevent the passage of the coliform group of organisms from the bowel to the upper part of the urinary tract.

It has been shown quite conclusively by Kretschmer, Williams, Smith, and others that the course of infection in pyelitis of pregnancy is by the way of the lymph stream from the large bowel.

By the beginning of the fourth month of pregnancy a muscular atony of the upper part of the urinary tract becomes established.¹² This is created by the hormone prostigmin, which is instrumental in the creation of a similar condition in the uterus, bowel, and gallbladder. Constipation develops, and the mucous membrane of the bowel becomes permeable to bacteria and, by their lymphatic absorption, are carried to the "physiologic hydronephrotic kidneys and hydroureters" of the pregnant woman.

The action of sulfaguanidine is an intestinal antiseptic one or has a specific destructive action on the coliform group of bacteria. When administered early in pregnancy, infection of the upper part of the urinary tract fails to develop. If once established, it is more readily controlled with sulfaguanidine.

It takes no imagination to visualize a broader use for such a drug in preventing those destructive renal lesions which so commonly follow pregnancies. Control of the hypertensive states associated with pyelonephritis also becomes possible. Its prophylactic use in intestinal surgery may fulfill many expectations. These are a few of the many possibilities hoped for by this drug.

Sulfaguanidine crystals are colorless. They consist of many fine needle-shaped fibers usually thrown together in parallel strands or radiating from a common center.

Conclusions

1. No single drug has been discovered which may be used for all types of urologic bacterial infections.

2. The urinary antiseptic that can be excreted in bactericidal concentration by a damaged kidney is not known.

3. Rapid excretion is a great advantage in the use of these drugs as a urinary antiseptic, since a low blood level will create the same urinary concentration as obtained with a high

blood level and a less rapid renal elimination.

4. Sulfapyridine is the most toxic of the sulfonamide derivatives and has no place in the therapeutics used by urologists.

5. Sulfathiazole in extremely small doses is effective as a urinary antiseptic when renal function is impaired.

6. As sulfathiazole has a better bactericidal action in lower concentrations than either sulfanilamide or sulfapyridine on the more common organisms of urinary infections, and has a more active one on *Str. fecalis*, therefore, it becomes the drug of choice of these three.

7. Sulfadiazine has a higher and more prolonged blood concentration than the others in this group.

8. Sulfadiazine is superior in its effectiveness against the streptococcus, the pneumococcus, Friedländer's bacillus, and the *E. coli* group. It is the equal but not superior in its therapeutic activity on the staphylococcus but is the choice because of lowered toxicity.

9. Sulfaguanidine has effective bactericidal action on the coliform organisms.

10. Intravenous anesthesia containing barbiturates administered during sulfonamide drug therapy is contraindicated.

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CHRONIC PYELONEPHRITIS

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PYELONEPHRITIS is the most common disease of the kidney. In its acute stage it is ordinarily easy to recognize and may be successfully treated in most instances. Once the disease becomes chronic, however, the diagnosis is far less obvious and treatment is of dubious value in many cases. The symptoms of chronic pyelonephritis are highly variable, some patients having a minimum of subjective disturbance, while others may suffer renal, bladder, or vascular symptoms that are completely incapacitating. Likewise, the pathology may range from the involvement of only small areas of the kidney to almost complete destruction of both organs by scar tissue and inflammatory processes. There is sometimes complete lack of correlation between the symptoms and the severity of the pathologic process, and the patient who is unaware of any urologic abnormality may be in a terminal phase of the disease. On the other hand, a majority of patients return again and again for treatment of distressing symptoms that have a tendency to recur despite every type of therapy.

Clinical data on 172 cases of chronic pyelonephritis seen during the last ten years have been reviewed and constitute the basis for this report. In 80 per cent of these the diagnosis was verified by characteristic pyelographic changes or pathologic examination. The remaining 20 per cent had normal pyelograms, the diagnosis being established on the basis of known chronic infection of the upper part of the urinary tract proved by ureteral catheterization. Cases of renal infection obviously secondary to calculus disease or hydronephrosis were excluded from this series because our main interest was in the disease as it affects a previously normal kidney.

Age and Sex Incidence

It is generally recognized that pyelonephritis is more common among women than men. Caulk⁵ found a proportion of 684 women to 225 men and estimated that in children girls predominated 3 to 1, that in adults women predominated 2 to 1, and that in the fifth to eighth decades the ratio was about even. In

our series, 62 per cent occurred in women and 38 per cent in men. As seen in Fig. 1, it is most common in women from the second to fifth decades or during the period of active sexual life. In men it reached its peak in the fourth decade. There were more cases in men than in women after the age of 60. One hundred and thirty-nine (81 per cent) had bilateral lesions. Of the remaining unilateral lesions, 22 (12.6 per cent) were of the right kidney and 11 (6.3 per cent) were of the left kidney.

Etiology and Predisposing Causes

Among the 107 women (Table 1), 36 cases gave a history suggesting etiologic or predisposing factors. Eighteen patients previously had acute renal infections during pregnancy, and the onset of their symptomatology corresponded roughly with that event. Prather⁷ has recently shown that 23 per cent of patients with pyelonephritis of pregnancy are apt to have a recurrence with subsequent gestation, an incidence of about ten times that normally occurring with pregnancies as a whole and illustrating the tendency of this disease to become chronic. Eight presented histories of focal infections which coincided

TABLE 1.—ETIOLOGY AND PREDISPOSING CAUSES

	No known etiology	99	57.5%
	Suspected etiology	73	42.5%
Women			Men
Pregnancy	18		Lower genital tract
Other foci	8		infection
Instrumentation	4		Prostatism
Congenital anomalies	3		Other foci
Defloration	1		Instrumentation
Stones	1		Stones
Trauma	1		

DISTRIBUTION BY AGE AND SEX

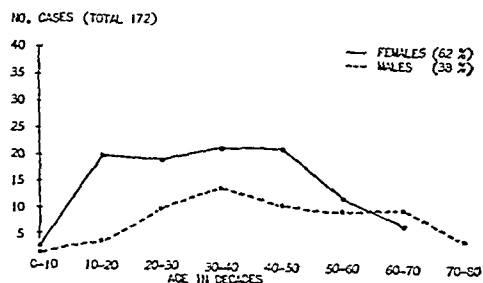


FIG. 1. Age and sex incidence of chronic pyelonephritis.

Read by invitation at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 29, 1941.

From the Department of Surgery, University of Michigan, Ann Arbor, Michigan.

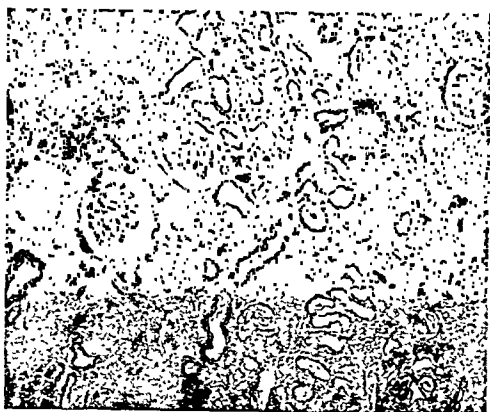


FIG. 2. W. W. died of renal failure after eighteen years' history of chronic bilateral pyelonephritis. Photomicrograph shows interstitial fibrosis, round-cell infiltration, and tubular dilatation. Note the fibrosis of glomerular capsules and tufts, with almost complete obliteration of some glomeruli by scarring, and hypertrophy of unaffected glomeruli.

with the development of the disease. These included 2 cases of cervicitis, 2 cases of pelvic inflammatory disease, 1 case of erysipelas, 1 case of deep cervical abscess, 1 case of general cachexia due to carcinomatosis, and 1 case of acute lower neisserian infection. Four cases followed instrumentation, 2 of these following prolonged indwelling catheterization, 1 following a transurethral resection of a bladder tumor, and 1 following a criminal abortion—method unknown. Three were associated with definite congenital anomalies of the kidneys. There was 1 case each following pyelolithotomy, trauma, and infection of the lower part of the urinary tract following defloration.

Among the men, 37 gave histories suggesting etiologic factors. Twenty were ascribed to previously existing genital tract infections. These included a variety of findings such as strictures, prostatitis, seminal vesiculitis, and urethritis, both of specific and non-specific types. We believe this illustrates that occasionally these supposedly benign infections may be foci for important ascending infections, as has been pointed out by Von Lackum and others. Nine cases were attributed to prostatism. Three cases followed other foci (1, bronchopneumonia; 1, tonsillitis; 1, multiple bronchiectatic abscesses). Three cases resulted from indwelling catheterization following abdominal surgery. Two cases followed previous calculus disease.

It is interesting to note that 42.5 per cent

of our cases presented some etiologic factor to which the disease might be attributed. It is possible that adequate and intensive treatment of the presumed predisposing causes might have prevented the development of chronic pyelonephritis in many of the cases.

In this connection it is interesting to consider the work of Wharton, Gray, and Guild,¹² who made a follow-up study of 30 patients, all women, who previously had had acute infections of the upper part of the urinary tract before the age of 5. Nine had had only one attack of "pyelitis" and, of these, 6 showed an abnormal urinary tract by urinalysis, pyelogram, or function study. Twenty-one patients had had two or more attacks and, of these, 11 showed abnormalities of the urinary tract by the same criteria.

Pathology

The best description of pyelonephritis with regard to correlation with its clinical features is that of Weiss and Parker¹¹ in which the disease is classified into four groups according to its various stages: (1) acute pyelonephritis ("pyelitis"), (2) active chronic pyelonephritis, (3) healed diffuse pyelonephritis, and (4) healed pyelonephritis with recurrence. The term "healed" is probably misleading, since, although the activity of the infection is quiescent, the destruction of kidney function by parenchymatous contracture may be advancing.

The acute stage of pyelonephritis is not often observed pathologically because nearly all patients recover. Those dying from acute ascending infections usually have widespread lesions of the kidney with abscesses and marked necrosis (according to a study by Kennedy⁶).

In chronic pyelonephritis (Fig. 2) there is, first, formation of inflammatory tissue in the interstitial structure of the kidney with atrophy of the tubules. The process then extends to the glomeruli, causing fibrosis of the capsule and glomerular tuft. The basement membrane may become thickened. Later, the tubules become dilated and filled with colloid or hyalinized secretions, due to retention at the corticomedullary junction caused by inflammation and fibrosis, and the glomeruli undergo further destruction. Finally, the whole area of the kidney in which the process is occurring may become a mass of inflammatory tissue with only faint remains of normal architecture. These changes were first described by Staemmler and Dopheide.¹⁰ This process may be unilateral or bilateral and



FIG. 3(A).



FIG. 3(B).

FIGS. 3(A) and 3(B). A. C., aged 48, was first seen here in February, 1939. There was marked impairment of renal function at that time; the blood pressure was 230/150. Diagnosis: chronic pyelonephritis.

(A) Pyelogram taken four years previously (February 7, 1935) at another hospital shows narrowing of infundibula, characteristic of chronic pyelonephritic contraction.

(B) Pyelogram made here on March 25, 1939, shows nonfilling of calices in both kidneys with obvious adequate injection of contrast medium.

may involve the whole kidney or be confined to restricted areas. Different parts of the kidney may show different stages of the disease (Putschar⁸). There may be compensatory hyperplasia of the uninvolved glomeruli.

The classification of Weiss and Parker¹¹ affords a satisfactory pathologic explanation of the clinical features of the disease. In chronic active pyelonephritis the infection is active and pyuria and bacteriuria may persist for a long time, giving rise to definite urologic symptoms. It may be accompanied by vascular changes in the kidney.

In "healed" diffuse pyelonephritis the patient is in a noninfectious stage. This probably represents the pathologic picture in a majority of cases of acute pyelonephritis which subside completely without any subsequent clinical significance and is attested by discovery of scars during postmortem examination of patients who died of other causes.

On the other hand, as the authors point out, in a number of patients arterial changes may develop. There is lymphoid infiltration of the

interstitial tissue and pelvis, and there are colloid casts in the tubules. The tissue response initiated by active infection may advance after the infection has subsided, producing a progressive cicatrization, which may involve normal functioning tissue.

By "healed pyelonephritis with recurrence" the authors designate the stage in which active infection recurs and is superimposed upon the preceding stage. Here again, urinary symptoms with bacilluria and pyuria may become prominent.

Striking changes in the gross renal architecture may result from chronic pyelonephritis, with the shutting off of an entire calix or calices from communication with the pelvis by contraction of scar tissue in the region of the infundibula. It may even be difficult to diagnose the disease by pyelography in such a far-advanced stage because of the cutting off of the caliceal components from the pelvis, which remains the only part of the kidney filled with contrast medium. Such a case was previously studied here. Pyelograms were done four years previously at another hospital and

Fig. 3(C).



Fig. 3(D).

FIGS. 3(C) and 3(D). Photograph of kidneys removed at autopsy two months later demonstrates complete stenosis of all infundibula right kidney and all upper infundibula of left kidney. Infundibulum of inferior major calix still communicates with pelvis.

TABLE 2.—INITIAL SYMPTOMS IN CHRONIC PYELONEPHRITIS

Type of Onset (Symptoms of Which Patients Were First Aware)	No. of Cases	Percentage
1. Cystitis Of these, 43, or 24%, also had costovertebral pain as initial symptoms	105	61
2. Costovertebral pain	30	17
3. Sepsis	8	4.6
4. Insidious	29	16

showed narrowing of the infundibula as in Fig. 3(A). The patient was seen here in a pre-terminal stage, and the pyelograms made are shown in Fig. 3(B). This patient later died at the Eloise Infirmary, and the autopsy findings were published by Siler.⁹ Reproduction of the early pyelograms and photographs of the kidneys is by permission of the author (Figs. 3(C) and 3(D)).



FIG. 4. V. J., aged 37, with a two-year history of chronic pyelonephritis and a blood pressure of 242/138, died of chronic bilateral pyelonephritis, confirmed by autopsy. Note irregular dilatation of both ureters with filling defects in left resulting from far-advanced ureteritis cystica. Calices in both kidneys show marked constriction from gross cicatricial contraction of parenchyma.

The Clinical Picture of Pyelonephritis

(1) *Initial Symptoms.*—In our series the duration of symptoms prior to diagnosis varied from three months to twenty years, with an average of five years. Sixty-one per cent had cystitis as an initial symptom and, of these, almost one-half had accompanying flank pain, either unilateral or bilateral. Costovertebral pain alone was present in 17 per cent at the onset (Table 2), and 4.6 per cent of the cases were initiated by sepsis alone without any other urologic symptoms. Sixteen per cent had an entirely insidious onset. As far as prevention or cure is concerned, it is obvious that 84 per cent of the patients could reasonably have been diagnosed at an earlier stage of the disease and might have benefited by earlier treatment.

(2) *Infecting Organisms.*—Most writers have agreed that the colon bacillus is the most frequent invader in chronic pyelonephritis, although a great variety of bacteria have been found. Keyes stated that when urine was obtained directly from the renal pelves a Bacil-



TABLE 3.—PERCENTAGE AND DEGREE OF PYELOGRAPHIC CHANGES

Pyelograms		
No pyelograms (autopsy diagnoses)	13	
Pyelograms	159	
Of 159 pyelograms done	No. of Cases	Per-centage
No changes	36	22.6
Minimal changes	87	54.7
Moderate changes	24	15
Marked changes	12	7.5

of these showed characteristic pyelographic changes at a later stage of the disease.

The ureter may be irregularly dilated throughout due to chronic inflammation with scarring of the wall. Rare cases of ureteral stricture with hydroureter have been described. The outlines of the kidneys themselves may show a definite decrease in size of organs due to progressive destruction by inflammation and scar tissue. In a like manner, this scar-tissue contraction distorts the pyelogram in various ways, causing dilatation of some parts of the kidney and constriction in others. The site most predisposed to constriction is the infundibulum. This process may go on to the point where a calix is completely shut off from the pelvis and is lost from the pyelogram, or various degrees of dilatation, including hydrocalicosis, may develop (Figs. 3(A) and 3(B)). The outline of the calices may become irregular and in far-advanced cases may be difficult to distinguish from tuberculosis. Some characteristic pyelograms in far-advanced disease are shown (Figs. 4 and 5).

In our series of 172 cases, 159 pyelograms were made. These were normal in 22.6 per cent; 54.7 per cent showed minimal changes; 15 per cent, moderate changes; and 7.5 per cent, marked changes (Table 3). Of what prognostic value are the pyelograms? A comparison of morbidity and mortality was made between those patients showing minimal or no pyelographic changes and those showing moderate and marked changes. During the period of observation, deaths from the disease occurred in 4.2 per cent of the former and 15.1 per cent of the latter (Fig. 6). Thus, we can say definitely that degree of pyelographic change gives us some index as to the prognosis and future course of the patient.

(4) *Renal Function.*—In 72 cases, function studies were done, consisting of a blood non-protein nitrogen or one or more of the following tests: a urea clearance, phenolsulphonphthalein, excretion, or concentration. Non-protein nitrogen estimations alone were not

FIG. 5. A. B. had a unilateral chronic pyelonephritis with hypertension cured by nephrectomy. (Case previously reported.) Diagnosis was confirmed by pathologic examination. Dilation of major and minor calices in this situation has not resulted from obstruction, since pelvis is of normal size. Thinning out of cortex from cicatricial contracture is in this instance solely responsible for the widening of calices.

lus coli infection was responsible in about 90 per cent of the cases. Cabot^{3,4} estimated the percentage as 70.4 and stated that it was even higher than this in women alone.

In most of our cases cultures were not carried out, reliance being placed on stained catheterized specimens in women and stained fresh second-glass specimens in men whenever ureteral catheterization was not done. By this method we found that 51 per cent of the patients showed bacilli; 21 per cent, cocci; and 15 per cent, a mixture of the two. Twelve per cent of the patients showed no organisms by stain whatsoever, although definite pyelographic changes were present.

(3) *Pyelographic Changes.*—The x-ray changes in chronic pyelonephritis are characteristic when present and, of course, depend upon gross structural abnormality of the kidney. That chronic pyelonephritis may be present before these changes occur is illustrated by the fact that 22 per cent of our cases having x-rays showed normal pyelograms at the time the diagnosis was established. Some

PYELOGRAPHIC CHANGES

TABLE 4.—PERCENTAGE AND DEGREE OF RENAL FUNCTION INVOLVEMENT

Function	No. of Cases	Per-centage
Number cases in which function tests done	72	
No impairment	18	25
Minimal impairment	17	23.6
Moderate impairment	19	26.4
Marked impairment	18	25

considered adequate tests of renal function unless they were definitely elevated, in which case marked impairment of the renal function was presumed to have occurred. Cases without elevation of the nonprotein nitrogen but impairment of phenolsulfonphthalein, excretion, urea clearance, or concentrating ability were classified as having minimal or moderate impairment, according to the degree noted. Seventy-five per cent of all cases on whom function tests were done showed some impairment. Twenty-three and six-tenths per cent showed minimal impairment; 26.4 per cent, moderate impairment; and 25 per cent, marked impairment (Table 4).

Studies of renal function provided the most accurate prognostic index available in this group of patients (Fig. 7). In those cases showing no impairment of renal function there was a high incidence of clinical improvement and no deaths during the period of observation and treatment. With progressive decrease in renal function a less favorable response to treatment, together with increased mortality rate, was observed.

(5) *Hypertension*.—Within the past few years the relationship of pyelonephritis, both unilateral and bilateral, to hypertension has been studied with particular interest. It is now well established that pyelonephritis, as well as other types of kidney disease, can produce hypertension. Weiss and Parker¹¹ estimated that pyelonephritis was responsible for 15 to 20 per cent of all cases of malignant hypertension. Braasch and Jacobson,² in reviewing 180 cases of bilateral chronic pyelonephritis of all ages, found that 47, or 26 per cent, had accompanying hypertension. However, in a control group of all ages the incidence of hypertension was 20 per cent. By placing the patients in two groups, the incidence of hypertension in patients under 50 was found to be almost twice that found in the control group; whereas, in those over 50 the incidence was approximately the same. The authors found that in chronic pyelonephritis the incidence of hypertension increased with (1) the duration of symptoms and (2) the severity of pyelographic changes.

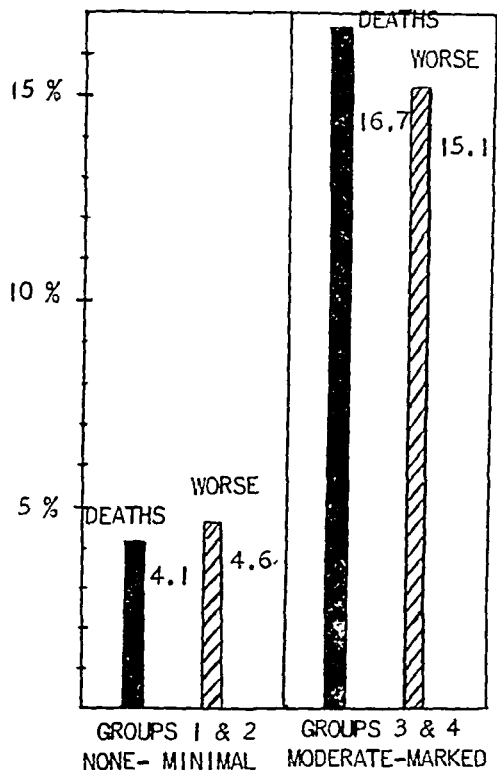


FIG. 6. Prognostic value of degree of pyelographic changes.

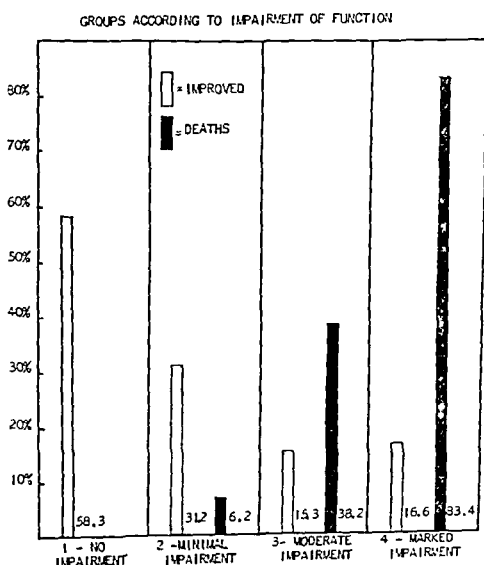


FIG. 7. Prognostic value of renal function studies.

In our series of 172 cases we found the incidence of hypertension for all age groups to be 34 per cent, an increase of 14 per cent over the normal expectancy rather than 6 per cent as found by Braasch. Since the average age of the group at Mayo Clinic and our group was nearly the same (Braasch's, about 42 years; ours, 38.6 years), our figures are significantly higher. Like Braasch, we have found the incidence of hypertension in patients with a long duration of symptoms to be higher (about 13 per cent) than in those with a relatively short history (under a year) in which the incidence was 20 per cent or approximately the same as those of Braasch's control group. Hence, we may conclude from our studies that hypertension rarely is brought on by pyelonephritis of only a year's duration.

Hypertension was found in 34 per cent of our cases. In 12 per cent the pressure was over 140/90. In 10 per cent it was over 160/110, while in 11 per cent it was over 200/140. The criteria for arranging the patients in these groups was the elevation of either systolic or diastolic readings above those mentioned (Table 5).

That the degree of hypertension is of prognostic significance is shown by the fact that among the patients adequately followed in these three groups there were mortality rates from the disease of 7.6 per cent, 18 per cent, and 54 per cent, respectively. Likewise, of the 17 patients in our entire series dying of pyelonephritis, 11 had hypertension of at least two months' duration preceding their demise. An additional 2 developed terminal hypertension.

(6) *Progress of Disease.*—Chronic pyelonephritis may undergo long periods of remission from its active infectious stages, as was mentioned in the discussion of its pathology. We have been impressed by the fact that many infections apparently remain quiescent over a period of years, while others may advance rapidly and terminate fatally within a short time.

In this study, all cases were divided into groups according to the length of duration of their symptomatology. This was relied upon as an estimate of the length of the disease prior to the patient's study at the hospital. It is, of course, entirely possible that in many cases estimates arrived at by this method were wrong because of the relatively insidious onset of disease in some cases and because of the tendency for many patients to overlook slight episodes of acute renal infections occurring

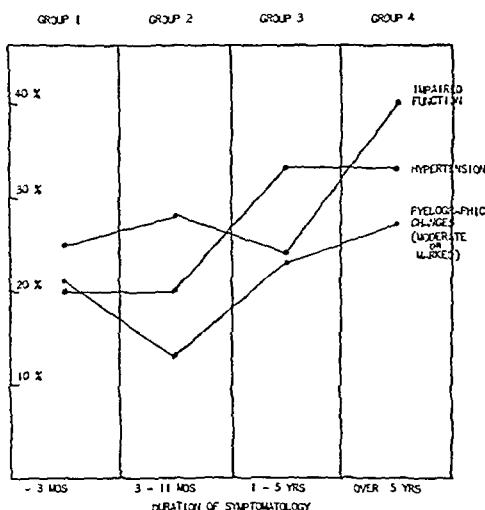


FIG. 8. Progression of chronic pyelonephritis according to length of duration of symptoms.

TABLE 5.—PERCENTAGE AND DEGREE OF HYPERTENSION

	No. of Cases	Percentage
Recorded blood pressures	145	
No hypertension	93	64
Hypertension	49	34
over 140/90	18	12.4
over 160/110	15	10.3
over 200/140	16	11
Terminal hypertension only	2	1

in the distant past and which seemed unrelated to their present difficulties.

In 160 cases with adequate histories for this estimation, 12.5 per cent (Group 1) had symptoms for less than three months prior to our studies. Fifteen and six-tenths per cent had symptoms from three to eleven months (Group 2). Thirty-three and seven-tenths per cent had symptoms for one to five years (Group 3), while 38 per cent had symptoms over five years. The average duration of preceding symptomatology was four years and nine months.

In correlating the apparent duration of the disease with the clinical evidences of its severity as shown by pyelograms, function studies, and hypertension, it can be seen that there is a tendency toward gradual progression of all those factors (Fig. 8). The percentage of moderate and marked pyelographic changes was slightly higher after a year's duration of symptoms, while there was a 13-per cent increase in the incidence of hypertension after this period. The percentage of renal function impairment remained about the same until five years of symptoms had elapsed; then it increased from an average of 25 per cent to 40

TABLE 6.—PROGNOSIS

	No. of Cases	Per- centage
Adequately followed cases	130	
Died	25	19
Died of pyelonephritis*	17	13
Worse	6	4.6
No change	48	37
Improved symptomatically	45	34.6
Cured symptomatically	3	2.3

* Thirteen died, autopsy confirmed pyelonephritis as cause of death. Four died, undoubtedly of pyelonephritis without autopsy.

per cent. It seems apparent from this study that a gradual progression of the disease, which, however, is not too striking, occurs with its duration. It must be borne in mind, however, that there are cases where the disease may exist for many years with little effect upon renal function, pyelograms, or blood pressure, while the opposite may be true of cases with only the briefest duration of symptoms, in which the whole course of the disease is short and fulminating.

(7) *Prognosis*.—In 1927 Braasch and Cathcart¹ stated that one-third of all patients with chronic pyelonephritis recovered, another third were remarkably improved, and one-third were not helped by treatment. In our series, 130 of 172 cases were adequately followed to provide information of value regarding prognosis. There were 25 deaths in this group, of which 17 were undoubtedly attributable to chronic pyelonephritis. Of these, 13 were autopsied and the diagnosis was confirmed. Deaths occurred on an average of five years and ten months following the onset of symptoms. Six patients, or 4.6 per cent, became definitely worse while under treatment. Thirty-seven per cent showed no great change for better or worse; in the majority of cases they had periods of remission and exacerbation of symptoms of about the same intensity as had existed prior to treatment. Thirty-four and six-tenths per cent of our patients appeared to be improved in general health and symptoms. Only 3 patients (2.3 per cent) became asymptomatic and showed a consistently negative urine on repeated examinations (Table 6). Except for our lower incidence of cures, these figures correspond pretty well with those of Braasch and Cathcart.¹

Treatment

Nearly all the patients who stayed long enough for adequate therapy received a number of varying types of treatment currently in

vogue at the time of hospitalization. No outstanding cures were achieved by any particular drugs, except that in the later cases treatment with mandelic acid and sulfanilamide compounds gave longer periods of remission from infections than any of the older medications. With the initial use of these drugs, several spectacular remissions occurred in cases where the urine had been grossly infected over long periods of time; in most of the latter, abandonment of the drug was followed by return of the infection sooner or later. This study offers no new ideas on therapy once the disease has been established.

It cannot be expected that the structural and functional changes of long-standing pyelonephritis can be reversed, even though bacteriologic arrest is effected. It is rather in the prophylaxis of chronic pyelonephritis that the physician has the opportunity of rendering the greatest benefit to patients. Since most chronic pyelonephritis starts as an acute disease, usually with clear-cut symptoms and ease of diagnosis, all patients with acute pyelonephritis should be treated conscientiously not only until the symptoms have disappeared but until the urine has been bacteria-free on repeated occasions. The attainment of this is sometimes difficult. The patient, relieved of distressing symptoms and sepsis, although still having infected urine, feels that he is well and naturally loses interest in further treatment. Unless informed at this time by a conscientious physician, he may remain entirely unaware that he still harbors infection and that he is a potential candidate for the development of chronic pyelonephritis unless his urine becomes bacteria-free. Modern chemotherapeutic agents are the most effective for this purpose. At the present time the best drugs are probably mandelic acid and the sulfanilamide group.

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FOLLOW-UP STUDY OF SO-CALLED PYELITIS IN CHILDREN

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THIS paper presents the results of a follow-up study of 45 cases of so-called pyelitis or, better termed, urinary infection in children.

All the cases were seen from two months to nine years after the original infection, with the average time as just over two years. A history and physical examination were made. In addition, a urine culture was carefully obtained under special precautions: first, the vulva was washed with green soap and water; second, a mercurial antiseptic was used to paint the urethral meatus; finally, small steel catheters, instead of rubber ones, were passed in order to avoid touching and contacting the vaginal wall.

There were 41 girls and 4 boys, ranging in age from 3 months to 15 years—the average being 10 years. All but 3 had been previously hospitalized and treated for urinary infection. On return, most of the patients had no complaints but, on inquiry, the following symptoms were elicited: (1) occasional frequency and nocturia, 8 cases; (2) repeated attacks of pyelitis (by history), 4 cases; (3) underweight, 2 cases; (4) pain in the back, 1 case; (5) pain in the abdomen, 1 case; (6) enuresis, 1 case; and (7) hematuria, 1 case.

Twenty-six cases had intravenous or retrograde pyelography or both; 17 had intravenous and retrograde; 8 had intravenous alone; and 1 had retrograde alone. Pyelography revealed the following lesions: (1) obstruction of ureteral-pelvic junction (aberrant vessels), 3 cases; (2) stricture of the ureter, 3 cases; (3) double pelvis of the kidney, 3 cases; (4) congenital absence of right kidney with infected hydronephrosis of the left, 1 case; (5) bilateral hydronephrosis (narrowing at vesical-ureteral junction on the left side; stricture of pelvic-ureteral junction on the other side), 1 case; (6) bilateral hydronephrosis, hydroureter with one double ureter, 1 case; and (7) fibrosis of vesical neck (bilateral hydronephrosis), 1 case hydroureter with one double ureter.

Twelve cases out of 45 that reported back for examination, or over 26 per cent, showed some abnormality.

Wharton, Gray, and Guild¹ studied 30

¹Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 29, 1941.

From the Buffalo Children's and Buffalo General hospitals.

girls nine and three-fifths years after their acute attack of pyelitis and found that 17 or 57 per cent had abnormalities by intravenous pyelography. I believe there exists a higher percentage of urinary tract pathology in children having so-called pyelitis than we formerly suspected. I should like to present a summary of a few of our interesting cases.

Case Reports

Case 1.—A girl, aged 10, entered the hospital complaining of nausea and vomiting, right lower quadrant pain, chills, and fever. She had nocturia once a night with no other urinary symptoms. She had previously had a similar attack that had subsided in a few days. On examination the urine was loaded with pus cells, *Bacillus coli* and *Streptococcus fecalis* were cultured. The residual urine was 250 cc. The cystoscopic examination revealed a fibrosis of the vesical neck and a bilateral hydronephrosis and hydroureter, which was more marked on the left side. A cystogram showed a reflux up the left ureter and kidney pelvis (a large destroyed left kidney). A resection of the vesical neck was done by Dr. Parmenter. Now, the patient has no residual urine, no pus cells in the urine, but *B. coli* can still be cultured. The right hydronephrosis has disappeared; the left reflux is still present. This child has gained about 20 pounds since the operation and has no complaints.

Case 2.—Another girl, aged 5, had numerous attacks of left-sided lumbar pain, nausea, vomiting, chills and fever, and persistent enuresis. A left pyelogram showed an obstruction at the left pelvic-ureteral junction. An attempt was made to relieve this by removing adhesions and eliminating an aberrant vessel. Since the operation the patient has had four attacks similar to those first mentioned. On re-examination the left kidney was functionless. A nephrectomy was performed and the patient has been fine since that time.

Case 3.—Another case, similar to the above, was that of a boy, aged 8, with recurrent attacks of enuresis and colicky left lumbar pain. The urine showed *B. coli* and pus cells, and on cystoscopic examination a left functionless hydronephrosis was found. A nephrectomy was performed which revealed an aberrant vessel at the pelvic-ureteral junction. The patient has been fine since the operation.

Case 4.—A girl, aged 6 months, entered the hospital because of fever and refusal to take food. Pus cells were found in the urine. She was not seen for two and a half years following the first admission, when intravenous and retrograde pyelography showed a large left infected hydro-

TABLE 1.—SUMMARY OF URINE CULTURES—45 CASES

Original Infection		Follow-up Cultures	
<i>B. coli</i> , <i>Str. fecalis</i>	11	Sterile, 24	Positive, 21
<i>B. coli</i>	8	<i>Str. fecalis</i> , <i>Staph. aureus</i>	6
<i>Str. fecalis</i>	4	<i>Str. fecalis</i>	5
<i>Staph. aureus</i>	5	<i>B. coli</i>	3
<i>B. aerogenes</i> , <i>Str. fecalis</i>	3	<i>Str. fecalis</i> , <i>B. proteus</i>	3
<i>B. morgani</i>	2	<i>Str. fecalis</i> , <i>B. coli</i> , <i>B. aerogenes</i>	1
<i>Str. fecalis</i> , <i>Staph. aureus</i>	1	<i>B. coli</i> , <i>Str. fecalis</i>	1
<i>B. coli</i> , <i>B. aerogenes</i> , <i>B. morgani</i> , <i>Staph. aureus</i>	1	<i>B. coli</i> , <i>B. aerogenes</i>	1
<i>Str. fecalis</i> , <i>B. aerogenes</i> , <i>B. coli</i>	1	<i>Staph. aureus</i> , <i>B. subtilis</i>	1
Culture not taken	9		
Prevalence of Organisms		Prevalence of Organisms	
<i>B. coli</i>	21	<i>Str. fecalis</i>	14
<i>Str. fecalis</i>	20	<i>B. coli</i>	6
<i>Staph. aureus</i>	7	<i>Staph. aureus</i>	7
<i>B. aerogenes</i>	5	<i>B. proteus</i>	3
<i>B. morgani</i>	3	<i>B. aerogenes</i>	2

All of these cases of original infection had pus cells in the urine and clinical signs of infection.

In this follow-up series 8 cases had pus cells in the urine. Nine had some organisms that were present in original infection.

TABLE 2.—SUMMARY OF URINE CULTURES—NO HISTORY OF FINDINGS OF UROLOGIC DISEASE

Female Children (2 mo.—15 yr.)		Women (16-72 yr.)	
<i>Staph. aureus</i>	7	<i>Str. fecalis</i>	7
<i>B. coli</i> , <i>Str. fecalis</i>	4	Anaerobic streptococcus	5
<i>B. coli</i>	4	<i>Staph. aureus</i>	3
<i>B. subtilis</i>	4	Hemolytic streptococcus	2
<i>Str. fecalis</i>	2	<i>B. coli</i> , <i>Str. fecalis</i>	1
<i>B. aerogenes</i> , gram-positive cocci	1	<i>Staph. aureus</i> , Anaerobic streptococcus	1
<i>B. aerogenes</i> , <i>Str. fecalis</i>	1	Anaerobic streptococcus, fusiform bacillus	1
<i>B. coli</i> , <i>Staph. aureus</i>	1	<i>B. coli</i> , <i>B. welchii</i> , <i>Str. fecalis</i>	1
<i>B. coli</i> , <i>B. proteus</i>	1	Anaerobic negative streptococcus, diphtheroid	1
Hemolytic streptococcus	1	Anaerobic gram-bacillus, Anaerobic streptococcus	1
<i>Shigella ambigua</i>	1	Higher bacteria	1
		Anaerobic gram-negative bacillus, <i>B. subtilis</i>	1
		<i>B. subtilis</i>	1
Prevalence of Organisms		Prevalence of Organisms	
<i>B. coli</i>	10	Anaerobic streptococcus	9
<i>Staph. aureus</i>	8	<i>Str. fecalis</i>	9
<i>Str. fecalis</i>	7	<i>Staph. aureus</i>	4
<i>B. aerogenes</i>	2	In 26 positive cultures, 18 had a few, or rare, white blood cells. Nine had organisms on direct smear.	

nephrosis and no right kidney or kidney shadow was found. This child is now 8 years old. The urine is loaded with pus cells, and the culture shows *B. coli* and *Str. fecalis*. With any of the sulfanilamide group of drugs the urine becomes crystal clear, and as soon as they are stopped pus cells and bacteria return.

Case 5.—A boy, aged 6, had had nausea, vomiting, and right lower quadrant pain. He entered the hospital and naturally had an appendectomy performed. This did not relieve the complaints. The urine showed varying amounts of pus cells at different times and *Str. fecalis*. Cystoscopic examination showed a stricture at the left vesical-ureteral junction and a stricture of the right ureter at the pelvic-ureteral junction. Following cystoscopy the patient has had no pains and urine has been clear.

Case 6.—A boy, aged 10, was practicing diving and took a "belly-flop." Following this he had severe left upper quadrant pain, emesis, frequency of urination, and a brown colored urine. This persisted and the boy was brought to the hospital. The urine showed many red and white blood cells. Culture showed *Staphylococcus aureus* hemolyticus. No function was obtained from the left kidney by intravenous pyelography, and it was impossible to catheterize the left ureter because of a stricture at the vesical-ureteral junction. Surgery revealed a large hydro-

nephrotic sac caused by an aberrant vessel at the pelvic-ureteral junction.

Case 7.—A girl, aged 3 months, was seen because of frequency of stool and a distended abdomen. Five hundred cubic centimeters of infected urine was obtained by catheterization. The culture showed *B. coli*, *Bacillus aerogenes* and *Str. fecalis*. Cystogram showed a large bladder displaced to the left. Cystoscopic examination showed a bilateral hydronephrosis with a double pelvis and ureter on the left side. The child, when last seen, was gaining weight and looked fine, but her urine was loaded with pus cells. We were unable to persuade the parents to bring in this child for further study and treatment.

In 45 cases of original infection, the follow-up cultures revealed 24 sterile cultures and 21 positive. The results are listed in Table 1.

This bacteriologic study seemed to be an interesting finding because it disclosed such a high percentage of cases with positive cultures. Did this mean that these patients still harbored pathogenic organisms? Did this mean that these cases should still be treated? Were these organisms the normal bacterial flora of the female urethra and bladder?

In 1937 Wharton, Gray, and Guild⁴ studied

30 women who had pyelitis in infancy. I previously referred to this work. Their series showed that 15, or 50 per cent, had positive cultures; the frequency of the organisms was as follows: *B. coli*, 9; *Staphylococci*, 4; *Dysentery, bacillus*, 1; *Shigalla Dispar Bacillus*, 1; and *Alpha-streptococci*, 1.

The percentage of positive cultures and the organisms found, compare with my group of 45 cases except for the *Str. fecalis*.

The high percentage of positive cultures raised the question as to what culture, if any, would be obtained on supposedly normal women. Urine cultures were taken on 100 women who had no history or findings of any urologic disease. In the group of female children between the ages of 2 months and 15 years, 23 sterile cultures and 27 positive cultures were obtained. In the group of women between the ages of 16 and 72 years, there were 24 sterile cultures and 26 positive cultures. In this group of 26 positive cultures, 18 had a few, or rare, white blood cells. Nine had organisms on direct smear. A summary of urine cultures done on 100 cases is shown in Table 2.

We find that the prevalent organisms are about the same as those we obtained in our follow-up series, appearing in the same frequency and percentage as in those children who had previous infection. In the adult series again we have the same percentage of positive cultures, but the organisms are somewhat different than appear in the children, since the anaerobic streptococcus is prevalent and the *B. coli* appears in only 2 cases in this group.

Schulte² reported in 1939 that nearly all the patients, both men and women, on whom bladder urine was obtained for culture through the cystoscope had positive cultures from the bladder and negative cultures from the kidney pelvis. Also a Gram's stain of the urinary sediment failed to show any organisms. He found that the organisms occurred in the same frequency as they did in the male urethra appearing in this order: micrococcus, diphtheroids, *Str. fecalis*, alpha-streptococcus, gamma-streptococcus, *Staphylococcus albus*, *Escherichia coli*, Aerobacter aerogenes, and pseudomonas. He did not mention the number of cases used and the number of times each organism appeared, and he did not give the percentage of male and female patients. In my normal series we did not culture the micrococcus and cultured the diphtheroids only once. Leishman³ cultured the bladder urine from 50 healthy women and obtained

B. coli four times; no other organisms were reported.

Conclusion

1. Urinary infection in children should not be taken casually, since there exists a higher percentage of abnormalities than is ordinarily suspected. An attempt at complete urologic diagnosis should be made. Early care and treatment may prevent further infections and complications.

2. A normal bacterial flora of the female urethra and bladder neck exists. There is a difference between the flora of adults and children.

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I wish to thank Dr. F. J. Parmenter, chief of the Urologic Department of the Buffalo Children's and Buffalo General hospitals; Dr. Erwin Neter and Dr. Ernest Witebsky for bacteriologic studies; Dr. Ralph De Graf for radiographic studies; and Dr. Samuel Sanes.

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Discussion of Symposium

Dr. W. W. Scott, Rochester, New York—Drs. Borst, Nesbit and Conger, and Slotkin are to be congratulated upon their excellent papers. Dr. Borst has told us in a clear, concise manner the story of the sulfonamides, stressing especially their relative effectiveness in the treatment of infections of the upper part of the urinary tract. In the order in which these drugs have been introduced to the medical profession, we have tried them in the treatment of infections of the upper part of the urinary tract. In our experience with the sulfonamides in common use today, sulfathiazole has proved to be the most satisfactory. From the very beginning our fear of the complications arising from the presence of too much of the insoluble acetyl sulfathiazole in the urine prompted us to use relatively small doses of the drug, giving it four or five times in twenty-four hours. We were greatly pleased with the clinical results and the relative absence of toxic symptoms. Helmholtz and others have recently reported results confirming our personal observations. The splendid clinical results we have observed in a limited number of cases treated by sulfadiazine, may well be due to its high percentage of excretion by the kidneys, its low toxicity, its marked solubility in the urine, and its high bactericidal properties. However, in our enthusiasm for the

sulfonamides let us not forget the value of proper drainage, the elimination of foci of infection, and the correction of improper habits of body hygiene, in the treatment of infections of the upper part of the urinary tract.

Dr. Nesbit has presented the subject of chronic pyelonephritis in a complete and instructive manner. As emphasized by him, the most successful treatment of chronic pyelonephritis is to be found in the field of preventive medicine. The cooperative patient who receives intelligent, thorough treatment during the acute or subacute stage of the disease seldom develops a chronic renal infection. Because of the varying reactions of the different species and types of bacteria to urinary antiseptics and other therapeutic measures, I believe it is important that the urologist and the internist work in close cooperation with the bacteriologist in the treatment of infectious diseases of the kidneys. In my opinion, where infections persist or recur, retrograde studies are of considerable more diagnostic, as well as therapeutic, value than intravenous pyelography.

Dr. Slotkin's presentation ties in nicely with the paper by Drs. Nesbit and Conger. The role of structural abnormalities of the genitourinary tract in persistent and recurrent renal infections is clearly demonstrated. The need of early intravenous or retrograde studies in such cases cannot be too frequently and too strongly emphasized.

I am at a loss to explain the high incidence of *Str. fecalis* infections in Dr. Slotkin's series of cases. In our experience and the experience of other writers on the subject, this organism has not been found so frequently. Fortunately, the *Str. fecalis* rarely attains the resistance and pathogenicity of some of the other organisms frequently found in the urinary tract. It is not clear in my mind as to whether or not the patients in his series were all proved to have infections of the upper part of the urinary tract. The persistence of a bladder infection is more suggestive of involvement of the upper part of the urinary tract than the mere presence of the organism in the bladder urine over a short period of time. I believe Dr. Slotkin's point concerning the existence of a normal flora in the female urethra and bladder is well taken.

Dr. George E. Slotkin, *Buffalo, New York*—One who has the privilege of hearing a symposium on a subject of such importance and magnitude—on the role, the prevalence, and the disastrous results from urinary infections—can only be grateful that the door of enlightenment has been opened still further to enable us to attack this subject more clearly.

We who have not only the privilege, therefore, in addition, to discuss the same are handicapped by an inability to detract one iota from the perfect manner in which the subject has been covered. It therefore leaves one with the alter-

native of adding a point or two, in summary of the three papers presented. We have heard that symptom-free individuals, whether they are children or adults, harbor offensive organisms, quiescent it is true but ready under the slightest provocation to become activated and create the symptoms of serious infection of the upper part of the renal tract, and when this condition occurs we have learned of the chemotherapeutic agents to defend this condition against the organism that may be determined.

The important lesson to be derived, I believe, from these three papers may be crystallized into a few important facts: first, that pyelonephritis is a serious disease and can be the cause of hypertension in from 20 to 34 per cent of the cases in the creation of a permanent renal ischemia through fibrosis of the glomeruli by scarification, atrophy of the tubules, and fibrous deposition in the terminal vessels of the kidney; and second, that this condition may follow the simplest of procedures—a simple catheterization with subsequent activation of dormant organisms and the development of a profound infection or the presence of a low-grade seminal vesiculitis, prostatitis, or stricture. It is not sufficient, therefore, for the physician who sees the urinary infection first to minimize the seriousness of this condition by discharging the patient when the urine is pus-free. Successive cultures must be taken until this urine is bacteria-free, as Dr. Edgar Slotkin has shown. It is also important to determine the response of the condition to therapy after the organism is disclosed, for I am certain that we have all seen urinary infections with concurrent types of organisms which are antagonistic in their response to any one preparation and have been overgrown by the predominating infection.

Therefore, may I suggest in the final analysis that the urologist has an important mission toward the patient and the practitioner who usually sees this patient first to impress upon them the importance that no case of urinary infection be discharged as cured until they are bacteria-free, that successive cultures be made of urine where desired response does not occur to medication, and that in every instance of urinary infection which does not respond to proper therapy the entire urinary tract must be investigated to discount the possibility of a low-grade pyelonephritis persisting for years with the ultimate possible development of the pathologic changes therefrom which create chronic invalidism.

Dr. Albert M. Crance, *Geneva, New York*—All three papers in this symposium have been excellent—the kind of papers we go home and think about and anxiously await their appearance in the *Journal*, so that we may enjoy going over them more carefully.

The first paper by Dr. Borst is a splendid review of the comparative values of the various sulfonamides. I agree with him 100 per cent

regarding sulfathiazole—that it is the best of the lot to the urologist. Whether it is colon bacillus or the gonococcus, it is the most effective drug to date and attains clinical and bacteriologic recoveries surprisingly quick. His charts showing the forty-eight-hour blood concentration studies of these various drugs are, alone, of great value, and he is to be congratulated for presenting it so clearly. Dr. Borst seems to have reason to throw sulfapyridine out of the urologist's armamentarium—I agree with him. Some of its complications are too frequent and too annoying to encourage its further use. A few months ago I used it on a young man with a terrific poly-arthritis complicating a subacute gonorrheal urethritis. His pains increased to such an extent that he actually became uncontrollable. At first it was confusing to determine whether the arthritis was getting worse or whether the drug was producing the severe cramplike pains. Upon stopping the drug, the alarming picture subsided. He went on to complete recovery after changing to sulfathiazole.

Dr. Nesbit has given us his usual masterly address. He has left little to discuss. His remarks regarding pyelographic studies in pyelonephritis are interesting and, indeed, important, especially, as he has said, as a guide in our prognosis. Two frightening experiences, however, have taught me to be just a little less anxious to make pyelograms in the presence of an acute infection without first attempting to quiet the flame either by acidification or by sulfathiazole treatment. In the 2 cases easily recalled to mind, pyelography was done at the time of the first urologic study—1 of these, a young woman, showed a temperature of nearly 106.5 F. in less than twenty-four hours following pyelography—the other, a young man, had a temperature of 107 F. the following morning. Both recovered, fortunately, leaving me, at the moment, the sickest of all. A word of warning therefore seems rather timely, especially in relation to pyelography in the presence of burning fire. It is much safer to let the flame die down and then proceed with the pyelogram.

There is one point in Dr. Nesbit's paper upon which I cannot entirely agree. I believe treatment is much more than a prophylaxis against later recurrences. Many cases that have been followed and treated over a long period of time with frequent cultural check-ups have never, so far as I know, shown the slightest tendency to recur. We must definitely treat these patients over a longer period of time with many more follow-up visits than are in vogue at the moment. These patients must be taught that the care of an infected kidney is fully as important to them as diet and insulin are to the diabetic.

I know that Dr. Nesbit has studied urinary infections for many years—from the days preceding the ketogenic diet, acid therapy, etc.—and I am sure he will agree that all of our strenuous efforts of those days have practically been shat-

tered by the newer almost specifics, such as sulfathiazole.

Dr. Edgar Slotkin's paper was excellently presented. He has clearly shown us the importance of knowing whatever the existing pathology may be. I believe that this one fact of knowing the pathology, anomalies, etc., is the outstanding part of his paper, for it is as important in children as it is in adults.

Dr. Francis N. Kimball, *New York City*—This symposium, which has been so clearly presented by Drs. Nesbit, Borst, and Slotkin, has been particularly interesting to me.

The high incidence of congenital anomalies in children predisposes them to the menace of partial or complete interference with the normal flow of urine.

Campbell found a 30 per cent incidence of anomalies in 580 cases of chronic pyuria. Dr. Slotkin's study of pyelonephritis in children further emphasizes the absolute necessity for a complete urologic examination in each case of persistent pyuria in children.

All of us, I believe, will agree with Dr. Nesbit in the prevention and early treatment of pyelonephritis. A large number of cases seen by us can be attributed to some foci of infection, and I would add to Dr. Nesbit's list of etiologic factors such foci as infected teeth and tonsils.

The pathology of the chronic stage, which he so accurately describes, certainly suggests the relationship of pyelonephritis, both unilateral and bilateral, to hypertension. Although it is true that the extent of the pathologic changes in the renal parenchyma is not always visualized in the pyelogram, in many cases the deformity in the architecture offers a good working index. If the degree of deformity in the pyelogram is a representation of the amount of cicatrization and pathologic changes in the interstitial structures, tubules, glomerular tuft, and capsule of the kidney, then the results may well be in accord with Dr. Harry Goldblatt's theory of renal ischemia. In his original monograph, "Experimental Hypertension Induced by Renal Ischemia," he states: "It is probable that the hypertension associated with unilateral or bilateral pyelonephritis in children and adults occurs only in those cases in which there is associated vascular sclerosis or in which the inflammatory disease produces the same effect on renal circulation as does vascular disease."

Several investigators have stated that there is no correlation between hypertension and renal function. In other words, impaired renal function does not imply the presence of hypertension. I should like to ask Dr. Nesbit what his experience has been in the relationship of renal function to hypertension. Also, I am particularly interested in hearing what results he has obtained in treating by surgery the unilateral diseased kidney associated with hypertension.

While it is true that 70 to 90 per cent of the invading organisms of the kidney will be found to be of the colon group, we do not place entire reliance on the stained specimens. There are instances in which the stained specimens will reveal the presence of organisms that may fail to grow on the various culture mediums. Nevertheless, we feel that culture methods should be done to study and isolate the specific organism present. This is particularly important in the

use of the chemotherapeutic agents at our disposal.

Dr. Borst has pointed out that no single drug has been discovered which may be used for all types of urologic bacterial infections. However, he has most ably shown us the indications, the contraindications, the dosage, the optimum hydrogen-ion concentration, and the chemotherapeutic agent that is superior in its effectiveness against a particular isolated organism.

Rules Governing the Award of "The Foundation Prize" of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons

(1) "The award which shall be known as 'The Foundation Prize' shall consist of \$150."

(2) "Eligible contestants shall include only (a) interns, residents, or graduate students in obstetrics, gynecology, or abdominal surgery, and (b) physicians (with an M.D. degree) who are actively practicing or teaching obstetrics, gynecology, or abdominal surgery."

(3) "Manuscripts must be presented under a nom-de-plume, which shall in no way indicate the author's identity, to the Secretary of the Association together with a sealed envelope bearing the nom-de-plume and containing a card showing the name and address of the contestant."

(4) "Manuscripts must be limited to 5,000 words, and must be typewritten in double spacing on one side of the sheet. Ample margins should be provided. Illustrations should be limited to such as are required for a clear exposition of the thesis."

(5) "The successful thesis shall become the property of the Association, but this provision shall in no way interfere with publication of the communication in the journal of the author's choice. Unsuccessful contributions will be returned promptly to their authors."

(6) "Three copies of all manuscripts and illustrations entered in a given year must be in the hands of the Secretary before June 1."

(7) "The award will be made at the Annual Meeting of the Association, at which time the successful contestant must appear in person to present his contribution as a part of the regular scientific program, in conformity with the rules of the Association. The successful contestant must meet all expenses incident to this presentation."

(8) "The President of the Association shall annually appoint a Committee on Award, which, under its own regulations, shall determine the successful contestant and shall inform the Secretary of his name and address at least two weeks before the annual meeting."

JAS. R. BLOSS, M.D., *Secretary*,
418 Eleventh Street, Huntington, West Virginia

VENEREAL DISEASE CONTROL FOR NATIONAL SECURITY

An intensified campaign to prevent the spread of syphilis and gonorrhea has been launched by the Division of Syphilis Control as an aid in the state's program for health in defense, says *Health News*.

State health officers have been charged with increased activity in syphilis control, particularly in cities, since it is in populous centers that syphilis occurs most frequently. Sulfathiazole has been made available without charge to every physician in the state. Consultants from the State Department of Health have doubled their activities in defense areas.

The area around the military training center at Pine Camp near Watertown has received special

attention. Close coordination with army medical officers has effected constant interchange of information. Additional personnel from the Department has been provided to assist in keeping infected persons under treatment, finding disease carriers, stimulating the establishment of treatment stations in cities, and putting into operation all known methods to prevent the spread of the disease. Local and state police have responded heartily to the request of the Department that prostitution be repressed stringently by every available means with the result that the number of both professional and clandestine prostitutes has been reduced to a new low point.

SOME COMMON PROBLEMS IN THE MANAGEMENT AND DIAGNOSIS OF CONTACT DERMATITIS

ALBERT R. McFARLAND, M.D., Rochester, N. Y.

THE purpose of this paper is to emphasize some characteristics and peculiarities of contact dermatitis which are quite often not recognized by the general practitioner and also sometimes overlooked by the dermatologist. No claim for originality is made for these observations. They are all mentioned in such recent texts as Sulzberger's *Dermatologic Allergy*¹ and Schwartz and Tulipan's *Occupational Diseases of the Skin*,² as well as numerous articles in recent dermatologic literature. In order to orient ourselves it might be well to mention the usual classifications of dermatitis and eczema which are ordinarily recognized. These are: seborrheic dermatitis, eczematoid ringworm, infantile eczema, chronic atopic eczema, the lymphoblastomas, general exfoliative dermatitis of either toxic or unknown origin, and contact dermatitis. I shall confine my comments to the last group.

The following are characteristics of contact dermatitis which I think are of value to re-emphasize and which are phenomena often overlooked and, at times, difficult to explain. As has been emphasized by Sulzberger,¹ we do not have the least idea why a certain individual is allergic or reacts to a contact irritant while another individual does not. I make this statement realizing, of course, that various hypotheses have been advanced and that various factors have from time to time been mentioned as possible causative factors.

The first phenomenon is that an individual may apparently become sensitive or allergic to a contact substance after a long period of apparent immunity. It is frequently stated by patients that they are relatively free from poison by dermatitis over a period of years and then may rather suddenly become quite sensitive. I have recently encountered the case of a dentist who practiced his profession over fifteen years before becoming allergic to mercury used in amalgam fillings. His skin has now become so irritable that an open bottle of mercury left in the same room with him will cause definite symptoms of itching and choryza. Undertakers are encountered who have been in the business for many years without trouble and then become sensitive to formaldehyde, after which the individual may

not even be able to go into the room where there is the odor of formaldehyde.

A second point of interest is that there is likely to be an increasing severity of the dermatitis following repeated exposures. Coincident with this increased severity of attacks may be noted the development of a multiple sensitivity. I have seen the case of a woman who developed a dermatitis of the palms from the ink used in the manufacture of blank checks. Patch tests were strongly positive, and at the beginning the condition would clear completely when she stopped work. However, after several exacerbations, it was found that she would develop a dermatitis from contact with soap and also from wool gloves. Careful protection was necessary over a period of many months before the condition eventually subsided.

As already mentioned, the fact is often overlooked that almost unbelievably small quantities of material may act as an irritant. It has been stated that the concentration of a substance necessary to cause contact dermatitis in some people may be about equivalent to the concentration of odors from a volatile substance. It is, therefore, not always necessary to have gross contact with a chemical in order to produce irritation of the skin.

Another fact worthy of note is that the sensitivity to external contacts does not by any means parallel the sensitivity to the same material injected, ingested, or even inhaled. An individual may be extremely allergic to taking aspirin tablets and, at the same time, a patch test on the skin to aspirin tablets may be negative. Ragweed pollen when inhaled into the lungs may cause asthma, and the same individual may have a negative patch test to ragweed pollen. Even in the case of arsphenamine dermatitis, it is quite possible to have a patient who will develop a severe dermatitis from injections of small amounts of arsphenamine and still have a negative patch test to arsphenamine on the skin.

The question of alternating periods of sensitivity and immunity has been the subject of much discussion. An explanation of this phenomenon would probably tell us why any individual is ever allergic to anything. It does seem to be a fact, however, that occasionally patients are observed who at one time

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are irritated by some substances and give positive patch tests and at other times do not. We have even seen cases of baker's dermatitis in which, in spite of continued exposure to baking materials, the patient would have periods of several months or longer of comparative freedom from trouble, only to be followed by an acute exacerbation.

A dermatologic colleague of mine told me of an interesting observation on his own skin. A certain furniture polish was used on the arms of his office chair, and he noticed that occasionally he developed a dermatitis on his forearms. He experimented with patch tests on himself with this material and concluded that at times, when he was under extreme nervous tension, the patch tests would be positive and the dermatitis would develop. At times, when this tension was absent, patch tests would be negative and he apparently would not be bothered by the polish. This example may give some concrete evidence to the ideas that have been recently expressed by Stokes³ and by Becker⁴ regarding the psychoneurogenic factors underlying certain dermatoses.

Another fact worth emphasizing again is that a dermatitis on one part of the body may so sensitize the entire skin or distant parts of the skin as to render them susceptible to external irritation. I think we have all seen such examples as a case of hair-dye dermatitis which eventually terminated in extensive involvement of the entire body or of a surgical case where an iodine dermatitis developed and where irritation of the knees and elbows readily followed from the rubbing of bed sheets. Experimentally, this phenomenon is seen in transepidermal absorption, where a patch test may be only slightly positive or even negative but will result in a flare-up or exacerbation of an original dermatitis. Incidentally, this calls to mind the occasional danger of patch testing cases where an extensive dermatitis already exists and where the possible offending agent is an essential irritant. Knowledge of this skin peculiarity should call to mind the importance of noting the original site of the dermatitis in taking a patient's history rather than paying too much attention to the areas involved at the time of examination.

Substances Responsible for External Irritation

External irritations may be roughly divided into two classes: first, those that are essential irritants, such as strong caustics and

acids; second, those that are not essential irritants but to which the patient may be allergic. Almost weekly reports are appearing in periodicals and journals of a dermatitis caused by some unusual substances. It is probably not far from the truth to state that almost any known substance—animal, vegetable, or mineral—may be capable of causing a dermatitis in some one individual at some particular time. While this makes the task of finding the offender difficult and, at times, impossible, yet it also impresses us with the fact that continued search and painstaking detective work may be rewarded.

It is not my purpose to give any long list of unusual materials that have been found to be skin irritants. However, I should like to enumerate a few irritants that I have encountered in practice which illustrate the novel and bizarre. They include: newspaper ink, Japanese lacquer, carbon paper, resinous materials used on new underwear and pajamas, plastics, dentures, tooth paste, jewelry, cosmetics, deodorants, shoe dyes, salad dressings and vegetables, feathers, varnish, latex rubber gloves, watch-cleaning materials, photographic supplies, insecticides, cocobolo wood, "live glass" suspenders and belts, effervescent waters, nail polish, and contraceptive jellies. Helpful lists of common irritants are found in recent textbooks by Sulzberger¹ and also by Schwartz and Tulipan.²

Points to Be Emphasized in Making Patch Tests

The pitfalls and limitations of patch testing have been well emphasized in the literature. One should keep in mind the following pertinent facts in doing patch testing. First, the conditions under which the patient is exposed should be duplicated as near as possible with regard to the dilution of the material, length of application, and the location of the patch tests. Second, patch testing of acute generalized cases where the probable offending substance is an essential irritant should be performed with great caution. Third, a positive patch test does not always mean that the cause of a dermatitis has been discovered. Fourth, a negative patch test does not always exclude the substance as the actual cause of the trouble. Fifth, where essential irritants are involved it may not be practical to do patch testing at all, and one must resort to the clinical tests of removing the patient from his surroundings for a suitable length of time.

Relation of Diet to Contact Dermatitis

Although the patient is often certain that a dermatitis is due to some food ingested, the more one sees of dermatitis, the more one is convinced that foods are seldom an answer to the problem. Drugs may, of course, produce a dermatitis, although their reaction is more likely to be that of a transient toxic erythema rather than a true dermatitis. The arsenical group is more likely to produce a true dermatitis, such as is seen in exfoliative dermatitis following the administration of arsphenamine. It has been my experience that almost never is the ingestion of a food a major factor in producing dermatitis. Even where scratch tests give positive reactions to certain foods, one seldom sees any change in the clinical picture by removing such food from the diet. Even in the case of chronic atopic eczema, it is usually discouraging to try to correlate the findings resulting from scratch tests with any change in the eczema for either better or worse.

Immunization Against Contact Irritants

In my opinion it is doubtful if anything effective can be done at the present time in the way of active immunization against contact dermatitis. The one exception to this general statement is in the case of some of the vegetable oils, such as the oleoresin of poison ivy and certain other weeds. Even in this field only partial success can be claimed.

Clinical Approach

In the clinical approach to a case of chronic dermatitis the following facts should be kept in mind. First, practically any substance that can be mentioned may produce a dermatitis in some one individual at some particular time. Second, the unusual and bizarre should always be kept in mind, as well as the more common and usual irritants. The detective ability of a Sherlock Holmes is probably the greatest asset that a dermatologist can have in handling these cases. All the skin testing in the world is of little value in comparison to a careful painstaking history.

After a list of possibilities have been obtained from the history, confirmation by patch testing is then in order. Third, time should be taken to explain to the patient the nature of his trouble and what you are trying to do in solving his difficulty. It is usually necessary first to disillusion him with regard to ideas that he may have as to the etiology, such as "acid in the system," "indigestion,"

"food sensitiveness," "bad blood," etc. Curiously enough, the patient often takes a negative attitude and you feel that subconsciously he is defying you to solve the problem. Many times I have not succeeded in getting anywhere on the first visit, but, after getting the patient to think along these lines, he will return in a week or two stating that he forgot to mention certain things and wondered if possibly the primrose in his room or the paint that he handled in his garage might have anything to do with his trouble. Often, by assuming the attitude that you are at the end of your rope and cannot imagine what the irritant may be, the patient may come across with some enlightening information. I, of course, have no objection to his taking credit for solving the problem. Occasionally, the frank malingerer may be encountered, but his attitude usually makes one suspicious. I find that the intelligent patient whom you are convinced is sincere may be taught to do simple patch tests on himself. I have frequently had this type of patient make lists of probable substances and do the tests on himself, often with gratifying results. This increases his interest in the problem, as well as saving him unnecessary office calls. Finally, if all efforts fail, it may be necessary to remove the patient completely from his surroundings, such as having him change his job, go on a vacation, or stay with a relative for a week or two.

Treatment

The ideal treatment is, of course, to find and remove the irritant. This is a simple matter in the case of a primrose in the house, a new pair of dyed pajamas, or a certain brand of rouge. The case of occupational dermatitis, however, presents a difficult and often insurmountable problem. A baker who is sensitive to flour but who has a family to support and knows no other type of work may have to choose between more or less continuation of his dermatitis or trying to learn some other type of occupation. Likewise, the dentist who becomes allergic to mercury may find his professional career practically ruined. These cases offer serious problems where compensation is involved, and we look forward hopefully to the time when some method of desensitizing these individuals can be successfully carried out.

In the meantime, it is by no means a waste of effort to carry out symptomatic treatment. Very often, the use of suitable local applications or the judicious use of x-ray therapy may

make all the difference between recovery and continued invalidism.

In conclusion, I might state again the well-known fact that what we need to know is why certain individuals have a sensitivity to certain external irritants. At present, we must admit that we have not the slightest adequate knowledge as to why one person develops a dermatitis from exposure to primrose and another does not. Factors that have been considered from time to time in the production of this sensitivity are: nervous instability; an imbalance of the potassium, calcium, and magnesium salts in the tissues; the overproduction of histamine; disturbances in fat metabolism; glandular dysfunction; and faults in pigment metabolism. None of these hypotheses, however, have given us an adequate answer to our problem.

Summary

1. Some peculiarities and characteristics of contact dermatitis are enumerated.
2. Almost any known substance may at times produce a dermatitis in some one individual. A list is given of a few unusual causes of dermatitis which serves as an example of problems involved.
3. Some technical points involved in the performance of the patch tests are emphasized, and also certain dangers in its use.
4. While symptomatic treatment is of value and removal of the offending substance may be curative in individual cases, our great need is to know the underlying cause of cutaneous sensitivity.

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3. Stokes, John H.: *Arch. Dermat. & Syph.* 42: No. 5, 780 (Nov.) 1940.
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Discussion

Dr. Howard Fox, *New York City*—The subject of contact dermatitis is an important and practical one to which hours instead of minutes could well be devoted. It is constantly broadening by the discovery of new substances that may

sensitize the skin and by unusual ways in which this may occur. For instance, sensitization may take place by indirect contact through another person who is not affected, as shown recently by Niles. Even a dermatitis apparently due to lipstick has been shown to be due to the metal container and not the lipstick itself.

Dr. McFarland mentioned a list of substances that only occasionally act as allergens, examples of which he has personally encountered. One of these was carbon paper. Sensitization to this substance must be rare; at least, I have been unable to prove a single case of dermatitis from this supposed irritant.

Dermatitis of the eyelids, especially in women, naturally suggests sensitization from cosmetics. We are all aware that nail lacquer may be the offending agent in such cases. In a recent paper read before the American Dermatological Association, Dr. Osborne reported the astonishing number of 100 proved cases due to this type of irritant. For a number of years I have told some of my patients, in a joking way, that their dermatitis was caused by nail polish. There was probably at times more truth than fiction in my remarks. It is astonishing to see how rapidly a dermatitis, due to nail lacquer, of the face or other parts will disappear when the patient stops using this particular kind of personal "adornment."

We all agree about the value of patch tests in contact dermatitis but recognize their limitations. While the positive reaction usually appears within forty-eight hours, it may at times be delayed for days or even weeks. In a recent report by Kulchar, a patch test to nupercaine ointment was positive only at the end of forty-five days.

Dr. McFarland spoke of a flare-up of the original site of an eruption following the application of a patch test due to transepidermal absorption. Such a case might possibly have a medicolegal implication. It seems to me, however, that when a patch test is indicated, and when it is properly performed, the physician would be absolved from any charge of negligence.

One of our most difficult problems is to differentiate an occupational dermatitis of the hands from a fungous infection (dermatophytide). In this regard it is refreshing to read the statement of Sulzberger and Wolf that "the diagnosis of eczematous dermatophytide is being overworked." This is especially true of compensation cases. In my opinion an "ide" eruption, especially if extensive, can be reasonably excluded if a trichophytin test is negative.

LECTURE ON DIETETICS

The Mary Swartz Rose Memorial Lecture, sponsored by the Greater New York Dietetic Association, will be held at The New York Academy of Medicine on February 3 at 8:15

p.m. The speaker will be Dr. C. A. Elvehjem, professor of biochemistry, University of Wisconsin, and his subject is "Natural Foods in the American Dietary."

DIVERTICULUM OF THE FEMALE URETHRA

MAURICE RASHBAUM, M.D., and GABRIEL P. SELEY, M.D., New York City

DIVERTICULA of the female urethra are rare. Among 234 patients investigated by Stevens¹⁵ because of symptoms referable to the urinary tract, there was 1 case of urethral diverticulum. Some authors have expressed the belief that diverticula of the urethra are invariably acquired, while others consider a congenital origin probable in some cases. No definite criteria have been described by which a congenital diverticulum may be distinguished from an acquired one. The two most common causes of acquired diverticulum are injury during parturition and dilatation above an obstruction in the urethra (stricture or stone). Hinman⁵ believes that the terms "urethrocele" and "diverticulum" best designate the two extreme types of urinary pouches, the one wide open into the urethra and the other with a narrow or slitlike opening.

The symptoms of urethral diverticulum may include any or all of the complaints commonly associated with lesions of the lower part of the urinary tract, such as dysuria, incontinence, pyuria, frequency, etc. When one observes a cystic swelling in the region of the urethra, the possibility of urethral diverticulum should be considered. Palpation confirms the cystic nature of the swelling and, at times, pressure will cause a discharge of turbid urine from the urethral orifice followed by disappearance of the mass. The diagnosis is easily verified by x-ray visualization with the aid of contrast mediums injected either into the urethra or directly into the mouth of the diverticulum. A urethral catheter may be used for the latter procedure. Sodium iodide in 5 to 12 per cent aqueous solution or 60 per cent hippuran in jelly may serve as the contrast substance. The latter was used in our case. Young and McCrae¹⁶ suggest filling the bladder with radio-opaque material and then taking the x-ray while obstructing the external urethral orifice as the patient attempts to void.

Nonoperative treatment of urethral diverticula by carbolic acid or by the injection of sclerosing solutions is not advocated. Electrocoagulation, fulguration, or cauterization are usually of no value.

Preoperative treatment is aimed at con-

trolling the urinary infection. Some authors have considered it necessary, before operation on the diverticulum itself, to establish bladder drainage, either vaginally or suprapubically, in order to reduce the danger of contaminating the suture line in the urethra with infected urine. Routh¹² in 1890 suggested leaving the urethral defect open after excision of the urethral diverticulum in cases with severe urinary infection. Neither this procedure nor a preliminary drainage operation is necessary under ordinary conditions. Urinary infection can usually be controlled by preoperative treatment, including oral administration of urinary antiseptics and bladder irrigations and instillations.

Numerous operative procedures have been employed for the cure of urethral diverticulum. If it is suspected that the diverticulum contains a calculus, it is advisable to open the diverticulum first and to remove the calculus before excising the sac. Neil⁹ advised invagination of the thinned-out sac followed by a fascia-lapping procedure. However, in doing this there is danger of obstructing the urethra by the infolded redundant sac. Young¹⁶ performed simple incision of the sac with carbolic acid and reported a successful case. The choice of suture material varies with the operator and in our opinion is of minor importance if the dissection is adequate to provide good flaps without tension. After operation, an indwelling urethral catheter is employed, connected to an apparatus for continuous bladder drainage and irrigation. The technic introduced by Duke at St. Mark's Hospital, London, England, and recently popularized by Colp¹ in this country for the prevention of bladder complications after major proctectomy was used in our case. After the catheter is removed and when the patient is voiding normally, it may be desirable to pass urethral sounds. This should not be done before twenty days after the operation.

Case Report

Mrs. M. R., a Puerto Rican, aged 39, was first admitted to City Hospital in March, 1938, complaining of dribbling and incontinence of urine following the birth of her last child four years before. Obstetric history included seven pregnancies, four terminating in miscarriage and three in the birth of full-term babies. The first child was

Attending gynecologist and assistant visiting gynecologist, respectively, City Hospital.

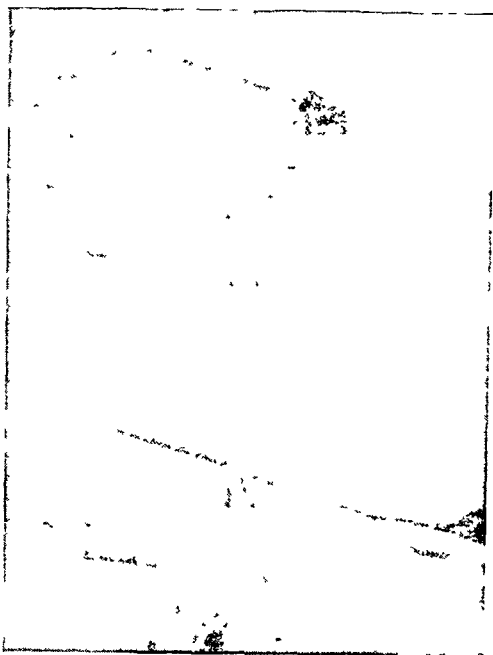


FIG. 1. Showing urethrocele before operation.

born in 1926 after a difficult labor. An episiotomy was performed but delivery was spontaneous. The second child was delivered by forceps in 1928. Her last child was born in 1934 after a fairly easy labor, except that catheterization had to be performed during labor before progress could be made. Immediately following this delivery her urinary symptoms began. She continually wet herself with urine during the day and also when in bed at night. The patient voided in small amounts several times during the day and during the remainder of the day dribbled urine upon the least movement. There was also burning on urination. One year before admission she began to have pain in the left costovertebral angle which radiated to the left upper quadrant and down to the left leg. This pain came in attacks associated with nausea and vomiting. Six months later a left nephrectomy was performed for calculus disease of the kidney. Dribbling of urine and burning on urination continued until her admission to the Gynecological Service of the City Hospital.

A urethral diverticulum was demonstrated by urethral endoscopy and by the injection of radio-opaque material into the diverticulum. On April 22, 1938, an operation was performed under caudal anesthesia. A bulge 2 cm. across was present a distance of $2\frac{1}{2}$ cm. from the urethral meatus. The sac was opened for a distance of 2 cm. and the walls were then invaginated. The anterior vaginal wall was repaired using interrupted No. 2 chromic sutures. Following this procedure the patient was not re-

lieved of her symptoms. She was discharged on May 5, 1938.

She was readmitted on June 27, 1938, complaining that the dribbling was worse than before the operation. Examination at this time revealed a swelling in the midline of the anterior vaginal wall 2 cm. proximal to the urethral orifice. It measured 2 cm. in diameter and was covered with smooth epithelium quite unlike normal vaginal mucosa, nontender, and not bleeding. Distal to this lesion was a puckered scar of the previous operation. There was a slight relaxation of the urethra itself. The mass was fluctuant, and on pressure over it turbid urine escaped from the urethral orifice. A continence test was performed and the patient was found to have no loss of voluntary sphincteric control. The urinary dribbling was believed to be due to an overflow from the diverticulum, which filled with urine each time she voided and then continued to leak. Preoperatively, 10 per cent argyrol was instilled into the diverticulum each day.

The second operation was performed on July 15, 1938, under spinal anesthesia. The patient was placed in the lithotomy position and a catheter was inserted into the bladder. Elliptic incisions 4 cm. in length were made through the anterior vaginal wall on each side of the old scar. The diverticulum was dissected free on all sides. The urethra and the urethrovaginal junction were then freed from the vaginal wall and from the medial surface of the pubic ramus on each side. The finger could readily be passed on either side of the urethrovaginal junction into the space of Retzius. When the dissection of the diverticulum, urethra, and urethrovaginal junction had been completed, the diverticulum was excised at its neck, leaving an opening in the inferior urethral wall about 1 cm. wide and $1\frac{1}{2}$ cm. long. A series of transversely passed interrupted zero chromic catgut sutures closed the defect in the urethra. In passing these sutures, care was taken to avoid including the urethral mucous membrane. A second layer of sutures approximated the periurethral tissues. The severed edges of the vaginal wall were then brought together by interrupted chromic catgut sutures, again passed from side to side. Following this, an ordinary No. 18 French soft rubber catheter with a cuff 6 cm. from its extremity was inserted into the bladder, and the cuff was fixed to the vestibule with two silk sutures. An iodoform gauze packing was placed in the vagina.

The "Duke" apparatus was connected to the indwelling catheter, and the bladder was irrigated every two hours with 50 cc. of 1:5,000 acriflavine solution. On the twelfth day the catheter was removed. The patient was unable to void and catheterization was performed. She voided several ounces the following day, but because of pain in the region of the urethra the catheter was reinserted. On the seventeenth

postoperative day, the patient was voiding well and the residual urine measured only 1½ ounces.

The wound healed by primary intention. On discharge from the hospital there were no urinary symptoms. Examinations at intervals during the following six months showed no evidence of recurrence. The patient had perfect urinary control, and continence tests revealed a normal function.

The pathologic report was as follows: The tissue was 2½ by 2 by 1 cm., consisting of a section of fibrous tissue lined on one side by squamous epithelium and the other side by transitional epithelium. There was a marked round-cell and polymorphonuclear infiltration.

Summary

1. A case of urethral diverticulum in a woman is presented, with operative cure.

2. Complete excision of the diverticulum should be performed before any repair is attempted.

3. The need of complete mobilization of the urethra and urethrovesical junction without tension on the suture line is stressed.

4. The use of continuous bladder drainage and irrigation after operation is advocated to prevent contamination of the suture line by infected urine.

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ESSENTIALS OF A SCHOOL HEALTH PROGRAM

In an address at Bayport, L. I., New York, Dr. William H. Ross listed six basic principles common to all school health programs.

1. Every child entering school should present a certificate of health from the family physician.

2. Periodic health examination of all pupils in public, private, and parochial schools.

3. Thorough follow-up work for the correction of remediable defects so that they may be understood and corrected by the parents but, if unable, by some other agency. Keep in mind that the school is an adjunct to the family and does not replace family responsibility.

4. Specific health education on the care of teeth by the employment of a dental hygiene teacher, who will teach children the care of the teeth. Dental caries is one of the most important causes of poor health.

5. A continuation of the use of public health nurses under the follow-up system now established to cover all children to help in general health education and the control and prevention of disease and the problems of nutrition and to follow up the correction of physical defects and the home environment.

6. The use of the Mental Hygiene Unit of the County Department of Health for child guidance either in clinics or by consultation.

Mental illness is beginning to have careful attention in this country. Suffolk County spends \$500,000 a year to take care of its mental sickness. It is the first county in the United States to recognize mental sickness as a public health problem. It is the first county in the United States to set up a mental health organization.

CHRONIC HYPERTROPHIC OSTEOARTHRITIS IN THE CERVICAL SPINE WITH RADICULITIS

A Report of 40 Cases with a Review of the Literature, Together with Some Notes on Effective Methods of Treatment—Part II

LE MOYNE COPELAND KELLY, M.D., F.A.C.P., New York City

Special Symptoms Ordinarily Not Ascribed to Osteoarthritis in the Spine

Headache.—Of the multitude of symptoms that arthritis of the cervical spine can produce, probably none has received so little attention as headache. In the older literature^{34,*} this type of cephalalgia was commonly referred to as "indurative or rheumatic headache" and was generally loosely ascribed to a "fibromyositis of the fascia, pierced by the cervical nerves as they pass superficially toward the scalp." Holbrook's²³ complaint that textbooks and diagnostic hints make little, if any, mention of arthritis as a cause of headache is well founded. His description in 1927 of a series of patients with headache, in whom osteoarthritic changes were consistently found in the first three cervical vertebrae, was a great contribution to our knowledge of this subject. Other students of the problem have confirmed these findings, and Gunther and Kerr¹⁸ stated that they never found headache except in those cases having at least some involvement of the first three cervical vertebrae, even though the lower cervical vertebrae did, in many cases, show much more advanced changes. (Only half of our 16 cases complaining of headaches showed any involvement of C1-3.)

They describe this head pain as beginning in the neck and radiating up over the occiput toward the temporofrontal area. It is usually brought on by movement of the head and is generally sharp and piercing in character. Often, there is an associated tenderness, soreness, burning, or a dull aching sensation in one or another area of the scalp. Thirty-one (52 per cent) of Bisgard's⁵ cases showed this characteristic type of occipital or suboccipital headache, which radiates forward widely over the scalp. Hartsock²¹ especially emphasized the fact that not all of these cases will show definite x-ray evidence of arthritis in the cervical spine and that if we insist on positive x-ray findings before we make a diagnosis of this condition as the causative factor in the headache we shall miss many

of these cases. This is well illustrated by Case 8.

Case Report

Case 8.—H. F., aged 74, was first seen in a dispensary March, 1935, complaining of pain in the shoulders and hands. A physical examination showed only crepitus in the shoulders and knees. A diagnosis was made of a generalized osteoarthritis and the patient improved under conservative treatment. Six months later, however, she returned complaining of pain in the right shoulder which radiated to the wrist. This cleared up rapidly with heat. Since a previous x-ray had shown marked osteoarthritic changes in other parts of the spine, an examination of the cervical spine at this time (November, 1935), demonstrating only minimal changes in this area, was considered to exclude osteoarthritis as a probable cause of the patient's symptoms.

Some three years later (October, 1938) she came in again complaining of a pain on the right side of her neck, which radiated up over the right occiput to the temple, across the forehead to the left side of the scalp, and back to the neck. She described it as a "sort of twinge" that she experienced whenever she turned her head. These symptoms gradually disappeared after the application of heat, and the patient was not heard from until a year later when she returned complaining of the same pain in her neck. This was now associated with a "clicking sound" and was brought on by any motion of the head, particularly on arising from bed in the morning. She described it as a sharp pain that lasted an hour or two and "made her eyes water and her eyeballs burn." Re-examination of the eyes was essentially negative, and a report was received from the ophthalmologist that the "headaches are apparently not due to the eyes."

She was then seen by an orthopaedist who advised careful manipulation followed by physical therapy and gentle massage. This was carried out, and the patient reported temporary relief from the heat but stated that any sort of massage tended to aggravate her symptoms. After three months of conservative treatment, she was not improved; in fact, she complained of "constant headache, pain at the base of the skull, and terrible stiffness in the neck, especially in the morning," so she was sent to a neurologist. He stated that her osteoarthritis was *not* a factor in her neurologic complaint and that all her symptoms were due to carotodynia. Another neurolo-

* For references see Part I, January 15 issue. Part III will appear in the February 15 issue.

gist, however, suggested that *in spite of the lack of x-ray findings of osteoarthritis in her cervical spine* the patient might benefit from radiation therapy to that region. Since nothing else had helped her, she consented to this form of treatment and received 1,800 r units (in air) over a period of three weeks. When last seen, one year later, she was almost entirely relieved of symptoms.

Altogether, this patient was seen by eight different physicians before a diagnosis as to the cause of her headache was made.

The usual story^{21,23} is that the patient describes periods of suffering alternating at first with days or weeks of relative freedom, but, later on, there is a tendency to long sieges of discomfort, so that eventually the patient may have a headache all day and every day. As a rule, it comes on in the early morning and may awaken the patient from sleep. Relaxation of the supporting structures of the spine (viz., as in sleep), increase in tension of the neck muscles from long hours of sedentary work, eyestrain, and exposure to draughts are given as exciting causes. In fact, Hartsock²¹ cited a case in which something as apparently insignificant as the removal of so small an amount of protection from cold as that afforded by the human hair resulted regularly in an attack of headache, which happened every time the patient had his hair cut. He concludes that "where all other evidence points to this disorder (viz., marked tenderness at the point of attachment of the trapezius muscle to the skull, etc.) and where repeated temporary benefit is obtained from physiotherapeutic measures one should never hesitate to make a diagnosis of osteoarthritis of the cervical spine." It is his considered opinion that if the physician would think of this possibility in every case of persistent head pain a great many cases could be removed from that large and baffling group that we now term "chronic idiopathic headache."

Other Pains in the Head (Facial Neuralgia, Earache, Sore Throat, "Sinus Pain," and "Eye Trouble").—That pain in the face along areas conforming to the distribution of the sphenopalatine and vidian nerves (viz., orbit, maxillae, and posterior nasopharynx) may result from several widely different types of irritation in the neck is a point that has not been considered often enough, particularly by those who are most concerned with the problem of pain in the head.

For example, Sluder¹⁰ and Clerf⁹ have explained certain pains in the face solely on the

basis of direct stimulation of ganglia by lesions nearby, while the role of lesions occurring at a distance (viz., in the neck) was not even considered (where no definite cause could be located it was simply termed "idiopathic"). Vail⁴⁵ referred to a type of neuralgia associated with infection of the sphenoid sinus and seen in the area of distribution of the vidian nerve. This he described as a "sharp pain felt deep in at the root of the nose and in, around, and behind the eye. From here it radiates across the temple to the ear, mastoid area, and in some severe cases even down the neck to the shoulders and arms." But he, too, did not mention a focus of irritation more distant than the nearby sinus as a possible initiating factor in the production of this train of symptoms. It was not until Ruskin³⁷ made a careful study of this whole subject that it became clear that the sphenopalatine ganglion syndrome of Sluder is not a distinct clinical entity at all but is really composed of four syndromes—maxillary, sensory facial, sympathetic, and local sphenopalatine (the ganglion cells proper)—and that in any given case these various syndromes are usually present in different combinations.

Hunt^{24,25} states that the neuralgic affections of the cranial nerves (see Figs. 1 and 2) may include such conditions as:

(1) *Geniculate neuralgia*, which affects the deeper structures of the face and produces sensation of painful pressure there (deep prosopalgia) together with pain in the deep posterior orbit, nose, and palate.

(2) *Glossopharyngeal neuralgia*, characterized by neuralgic pains in the area of distribution of the glossopharyngeal nerve at the base of the tongue and in adjacent regions of the throat.

(3) *Superior laryngeal neuralgia* (vagal in origin) with pains localized to the region of the larynx.

All these types of neuralgia may at times be accompanied by otalgia, and the clinical diagnosis in these cases is often involved and difficult.

Furthermore, Ussher's⁴⁴ studies suggest that there are certain, even more remote, "foci" that may cause identical "visceral" symptoms in the head. He maintains that such foci can consist of: (1) chilled cutaneous structures in the region of cranial nerves, (2) myositis of the cervical and upper dorsal muscles, and (3) articular derangements of the cervicodorsal spine. He has repeatedly demon-

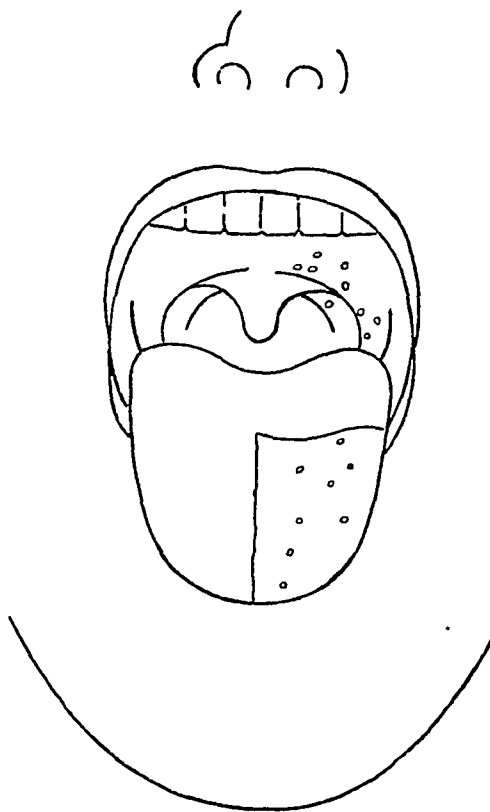


FIG. 1. The sensory field of the facial nerve. Diagram of zones of innervation of geniculate ganglion (after Hunt²⁸). Distribution of intra-oral remnants of the geniculate visceral sensory system on the palate and in the distribution of chorda tympani nerve on the tongue.

strated that by the correction of factors that cause irritation of sympathetic fibers (which, he believes, act as channels for impulses from these relatively distant foci) he can give the patient complete relief of all symptoms. Moreover, such "visceral" symptoms can recur whenever any of the precipitating factors are allowed to return. He quotes Atsatt² in describing the pathways for these nerve impulses. According to these observers, herein lies the explanation of the pathway for pain in those patients with osteoarthritis of the cervical spine who give a history of unilateral symptoms such as hemi-crania or even at times a one-sided earache or sore throat. Just such a situation is illustrated by Case 7 (the picture in this patient was at first somewhat obscured by an osteoarthritis of the dorsal spine with abdominal symptoms, but, when it became apparent that the gastrointestinal complaints were on

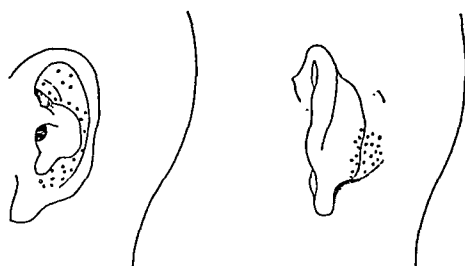


FIG. 2. The sensory field of the facial nerve. Diagram of zones of innervation of geniculate ganglion (after Hunt²⁸). A: Cutaneous zone on anterior auricle. B: Cutaneous strip on posterior auricle.

a radicular basis, the cause of the head pain was easily determined).

Case Report

Case 7.—M. G., aged 68, was first seen in a dispensary in July, 1937, complaining of pain in the shoulders—worse on arising in the morning and during cold weather. She also complained of a headache that, she stated, she had had "off and on for 44 years." Orthopaedic examination revealed a diminution in motion throughout the dorsolumbar spine and crepitus in all her joints, but x-rays of the shoulders were negative. She was treated conservatively with physical therapeutic procedures but still complained of the same joint pains, constant headache, and frequent abdominal cramps. In February, 1938, she consulted an otolaryngologist for pain around and behind the right ear. He reported that there was no pathology in the nose and throat and that the "pain might possibly be due to a neuritis."

In October of that year, she was seen by an arthritis specialist who told her that nothing more could be done for her pains and advised her to see a "nerve specialist" about the headache. Subsequently, she was examined by two physicians, who could find no deviation from the normal. X-ray of the skull was reported negative and, thereupon, she was discharged as a "tense, unhappy, dissatisfied woman who is dependent and resents it." Eye examination at this time was negative, but the ophthalmologist noted that the headaches were frontal and worse upon getting up in the morning. Another examination of the eyes after a period of more than a year, in an effort to determine the cause of the headache—which had persisted up to this time and which was always aggravated by lying down—was reported to be negative, and the headaches were still considered to be "not due to eyes."

Special Note: The patient did not return thereafter until a year later, when she was seen by a gastroenterologist for a sharp pain in the epigastrium radiating to the right upper quad-

rant and up under the sternum. She stated that she had had it off and on for about two years. It would come on in cycles alternating "one week on, then a week off." A tentative diagnosis was made of chronic cholecystitis. However, the Graham test and gastrointestinal series were normal and the stool was negative for occult blood. Gastric analysis showed no free HCl after histamine, but the blood count was normal. Pelvic examination was entirely negative. No cause for the abdominal symptoms was found (x-ray studies of the dorsal spine had not been done).

I saw the patient in May, 1940, at which time she complained of "pain in the neck and middle of her upper back." Physical examination revealed crepitus in the neck, shoulders, and knees with little motion in the dorsal spine. An x-ray examination showed considerable osteoarthritis in the cervicodorsal spine with some cervical scoliosis. The middorsal vertebrae varied considerably in thickness. Having tried physical therapy over a long period of time without benefit, the patient consented to x-ray therapy, and this was given (1,400 r units in air) to the cervical and upper dorsal spine over a period of ten days. Two months later she reported that there was much less pain in the back of her head, that she had had no recurrence of earache, and that her neck muscles were now considerably looser. She stated that the vertical headache was somewhat diminished but still tended to increase toward the end of the day. A further course of six treatments (600 r units in air) was then advised, following which the patient said that "the pain on the top of her head, which had been there so long, had by now entirely disappeared."

This patient was examined by twelve physicians before the diagnosis was established.

If we accept the pathways as outlined by Ussher⁴⁴ as probable channels for the passage of impulses from those more remote lesions in the head and neck, we are thereby enabled to visualize more readily the great variety of pains in the head which can be produced by an arthritis of the cervical spine.

Pseudoanginal Pain.—MacKenzie²⁷ pointed out in his book on *Angina Pectoris* that the pain in the viscerosensory reflex associated with organic disease of the heart and the pain of a similar distribution but not associated with heart disease may resemble each other so closely that sometimes an exact differentiation can be made only by watching the progress of the case. Others⁴¹ confirm this difficulty in differentiating the exact cause of certain pains in the chest especially in those patients known to have both angina and arthritis of the spine. In 1926 Kilgore²⁸ discussed an "anginoid type of pain" and showed how it differs from true angina, but

he did not ascribe the syndrome to osteoarthritis of the spine. Hanflig²⁹ cited such a case in which x-ray pictures of the spine were reported negative but in which there was slight limitation of the neck movements in all directions. When the symptoms subsided after adequate physical therapeutic measures, he concluded that his patient had a cervical arthritis. He feels that there must be many patients who are treated mistakenly for years for heart disease whose symptoms are really due to arthritis of the spine with root pains. Other writers⁴³ also have reported having seen patients who had had a previous diagnosis of "aortitis" or "angina," but, in whom, after thorough study, all the symptoms were found to be due not to cardiovascular disease but simply to irritation of the lower cervical spinal roots.

The mechanism of pain referred to the precordial area as a result of irritation of these cervical roots by osteoarthritis of the spine has been clearly described by Nachlas²⁹ who reported 3 such cases in detail in 1934. According to this authority the pectoralis muscles are innervated by the lateral anterior thoracic nerve (C 6 and 7) and the medial anterior thoracic (C 8, D 1), while the teres, the subscapularis, and the deep portions of the latissimus dorsi muscles receive fibers from the long thoracic, thoraco-dorsal, and subscapular nerves (which are derived from the posterior roots of the lower cervical nerves, C 5-8). All of these, although primarily motor nerves, possess protopathic sensations, so that pinching of their roots by osteoarthritic changes in the spine can produce that which will be referred, in each instance, to the terminal portion of the nerve involved. In this case, since it is the nerves to the muscles lying on the chest wall which are affected, it becomes clear how a lesion in the cervical spine may result in *precordial* pain.

It was Henry Head²² who first presented in 1895 the hypothesis that motor nerves convey fibers of deep sensibility, but the existence in motor nerves of certain afferent fibers to the skeletal muscles was actually demonstrated first by the physiologist Sherrington.³³ He observed that a third to a half of all myelinated fibers in motor nerves are sensory, originate in the spinal root ganglia, and run directly to the muscle bundles.

Gunther and Sampson¹⁹ maintain that the differential diagnosis of precordial pain of a radicular origin from that of a visceral origin is largely made on the basis of a careful his-

tory. They state that "where pain in the chest is present as a result of spinal arthritis, it is consistently found in broad, beltlike zones along well-defined spinal root dermatomes and across the *back* of the chest as well as over the precordium." Moreover, symptoms may be present at the same time in the neck and shoulders, and these neck pains frequently radiate over the shoulder girdle to the *outer* aspect of the arm and forearm. X-ray study usually reveals some osteoarthritic changes in the upper dorsal or lower cervical spine (although this is by no means constant), and the patient almost invariably shows some clinical evidence of this disorder in other parts of the body. As a general rule, these cases get definite, though temporary, relief from heat and salicylates, while such measures as changing to a hard bed and immobilization in a Taylor brace or high back corset often give additional comfort. In this condition, the patient frequently reports that the pain in the left side of his chest, which comes on in the early morning hours, will go away if he can find a comfortable position in bed. However, some authors state that the pain and stiffness due to an arthritis of the neck tends to disappear after mild activity (viz., after "limbering up" in the morning), just as is the case in osteoarthritic conditions in any other part of the body.

On the other hand, if the precordial pain is visceral in origin, the nervous phenomena associated with cardiovascular pain tend to dominate the picture, viz., sweating, salivation, and urination. The patient is more apt to be vague about the exact localization of his chest pains (in contrast to the sharp localization in the root pain due to hypertrophic arthritis), and the response to effort will not be so good. Moreover, the nitrites and other vasodilators will afford this patient more relief than physical therapeutic measures. At times some confirmatory evidence may be obtained from the electrocardiogram and 6-foot plate. The necessity for this differentiation is well illustrated by Case 35.

Case Report

Case 35.—Mrs. L. G., a widow, aged 54, gave a history of pain across the left side of the chest and in her left shoulder whenever she attempted to comb her hair. This pain sometimes radiated down the inside of her left arm to the wrist and was often associated with a "pins and needles" feeling in the fingers of that hand. She also described a "burning sensation in the back between the shoulder blades." Soon after the onset of these symptoms she suddenly developed a

choking sensation that was never explained to her satisfaction. Her physician said she had "neuritis." Another said she had "heart trouble and bad nerves," while two cardiologists insisted that there was nothing seriously wrong with her cardiovascular system.

Physical examination revealed moderate limitation of motion in the neck with crepitus in the shoulders and knees. The sedimentation rate was but slightly elevated. Her heart was entirely negative on physical examination and fluoroscopy. The electrocardiogram showed some splitting of the QRS complexes—a finding consistent with mild changes in the myocardium. An x-ray of the cervical spine, however, showed moderately advanced osteoarthritic changes about the bodies of the lower cervical vertebrae. She improved markedly after reassurance and the application of heat to the cervical spine given over a period of six weeks. When last seen, five years later, she stated that she had remained entirely free of symptoms.

Many of these cases of pain in the left side of the chest are dismissed with a diagnosis of "No evidence of cardiovascular disease"; and the statement is often made that "no doubt, there is a large psychoneurotic element in this case." Our own impression is that a good proportion of such patients, if studied carefully with x-ray pictures, will prove to have an arthritis in the cervical spine.

Other Symptoms and Signs of Radiculitis

It has been pointed out that sensory nerves and voluntary muscles are not the only structures that can be affected by this process. A case is cited in the literature⁵ in which there were signs of irritation of the phrenic nerve during an acute flare-up of arthritic symptoms in the cervical spine (persistent hiccough for a period of six weeks). In addition, there are two references^{29,47} to a unilateral Horner's syndrome, which indicates that at times even the cervical sympathetic may become involved in this diffuse process. Nachlas²⁹ has shown that this phenomenon may result from pressure on nerve fibers originating in the region of the first dorsal vertebra. He states that certain nerves—the white rami communicantes—arising from the lower cervical and upper dorsal cord "pass through the cephalic portion of the sympathetic system and assist in the control of the eye muscles."

Conclusion

In general, it may be said that our experience parallels that of Bisgard,⁵ who reached

this conclusion: "Radiculitis may involve any group of nerve fibers contained in any nerve root—motor, sensory, or sympathetic—

and the symptoms—unilateral or bilateral—may reflect evidence of irritation or loss of function—either partial or complete."

Postgraduate Series on War Surgery—Nassau County

To members of the Nassau County Medical Society went the following letter on January 7:

Dear Doctor: The war emergency has produced numerous requests from our members for postgraduate education opportunities in the field of military medicine with particular reference to civilian casualties. Because of the crowded condition of the medical calendar, it has not been possible to arrange a series of lectures as requested without interfering with something else already scheduled. Hence we have reluctantly decided that we shall be forced to postpone or abandon our scheduled postgraduate education series and substitute a new series on war medicine.

Through the assistance of the Nassau Surgical Society, the medical authorities at Mitchel Field, and the cooperation of the several groups concerned with our regular postgraduate program, we are able to announce the following:

Postgraduate Series on War Surgery*

January 12, 1942	Mercy Hospital	Treatment of Shock	Eric Ponder, M.D.
January 19, 1942	Nassau Hospital		
January 26, 1942	Mercy Hospital	Treatment of Gas Cases	Maj. R. E. Lee, M.D., U. S. A.
February 2, 1942	Nassau Hospital		
February 9, 1942	Mercy Hospital	Treatment of Minor Injuries	K. T. Young, M.D.
February 16, 1942	Nassau Hospital		
February 23, 1942	Mercy Hospital	First Aid Treatment of	O. C. Hudson, M.D.
March 2, 1942	Nassau Hospital	Fractures	
March 9, 1942	Mercy Hospital	Treatment of Burns	A. S. Warinner, M.D.
March 16, 1942	Nassau Hospital		
March 23, 1942	Mercy Hospital	Correlation of Treatment	B. W. Seaman, M.D.
March 30, 1942	Nassau Hospital	from First Aid Through Permanent Disposition of Cases	

All Sessions at 4 P.M.

Please note that each of the scheduled lectures will be given twice. It is hoped that as many as possible will attend the first lecture on each subject at Mercy Hospital, thus reserving the smaller auditorium at Nassau Hospital for those members who find it impossible to attend the Mercy Hospital session. In this way there should be room for all who wish to attend.

To conserve funds we shall not send out individual notices of these meetings. Please make note of them in your engagement book and keep this notice for future reference.

Sincerely,

C. W. MARTIN, M.D., *President*

**Nearly 300 doctors and dentists heard the lectures on January 12 and 19.—Editor*

POSTGRADUATE COURSES

The second semester of postgraduate courses will be offered at the Mount Sinai Hospital from February 2 through March 28. These courses, in Bacteriology, Cardiology, Gynecology, General Medicine, Medical Statistics, Neurology, Ophthalmology, Pathology, Pediatrics, and Radiology, are given in affiliation with Columbia University.

Application for courses should be made to the Secretary for Medical Instruction at the Mount Sinai Hospital, New York City, with the exception of courses in Radiology, for which application should be made to the College of Physicians and Surgeons.

NUTRITION PROJECTS IN NEW YORK

More than fifty-five long-range projects designed to raise dietary standards were inaugurated in the state during the Nutrition Fortnight, November 20 to December 3, 1941, according to Dr. Elizabeth M. Gardiner, chairman of the New York State Nutrition Committee. Every cooperating county organization engaged in some form of activity, and the projects begun will be continued as part of the nationwide program to improve nutrition. In thirty-five different areas in the state, for example, local groups are working on school lunch programs. In some cases this will be the first time that hot noonday meals will be made available in schools.

Special Article

MEDICINE MARCHES ON

BERNARD L. SHIENTAG, LL.D., New York City

IT MAY serve a useful purpose, although on the face of it somewhat of a presumption, for a layman to tell how he feels about the progress and the future of medicine. I do this as one with a deep interest in medical problems, one of a group that is growing in size and in understanding largely because of the splendid educational activities of the medical associations of the country.

Long before the first World War, George Gissing, a gifted English writer, said: "I hate and fear 'science' because of my conviction that, for long to come if not for ever, it will be the remorseless enemy of mankind. I see it destroying all simplicity and gentleness of life, all the beauty of the world; I see it restoring barbarism under a mask of civilization; I see it darkening men's minds and hardening their hearts; I see it bringing a time of vast conflicts which will pale into insignificance 'the thousand wars of old' and as likely as not, will overwhelm all the laborious advances of mankind in blood-drenched chaos."

Gissing wrote as one inspired, but what he said was only true in part. For one thing, he confused advance in science with man's use of that advance. The medical profession, through the centuries, has demonstrated that the most remarkable and revolutionary advances in science can be and have been used to promote human betterment and welfare. You have made the body of man "the temple of your miracles." The doctor is the embodiment of the true spirit of democracy. In his every daily task he recognizes the supreme dignity and worth of the individual in the eyes of man, as well as before God. The story of his heroism and of the supreme sacrifice he has made for the advancement of science and for the relief of suffering humanity goes to make up the most glorious and inspiring chapters in medical history.

What a remarkable achievement has been yours! The control of epidemic diseases, smallpox, typhoid, typhus, cholera, and yellow fever resulted not alone in prolonging

human life but in dispelling fear and giving rise to a feeling of hope and confidence. Think of the great saving in life resulting from the discoveries in bacteriology. These led to antiseptics and then asepsis and, together with the introduction and development of anesthesia, widened the scope of surgical intervention, particularly to the viscera of the abdomen and chest, and made for the relative safety of modern surgery with its emphasis on the preparatory treatment of the patient and postoperative care.

There came the discovery and the ever expanding use of the x-ray and technics in connection therewith for diagnostic and therapeutic purposes, the improvement of the microscope, and the discovery of radium. There was the remarkable development of intracranial surgery and the surgery of the nervous system and the use of the encephalogram in connection therewith. There was the ascertainment of the means of treating and controlling syphilis, with the growing, but as yet inadequate and often timid, attempts to cope with that problem. There was the more humane and scientific treatment of the mentally afflicted, with fever and shock therapy offering some hope to the parietic and a faint glimmer of comfort to the schizophrenic.

As we survey the field we find the great advances in gynecology, the control of puerperal fever, and the reduction of the maternity death rate although not to the extent warranted by present medical knowledge. There have been the amazing and almost incredible reductions in the infant mortality rate through control of the diseases of children—what we laymen called summer complaint—the effective control of diphtheria, including susceptibility, prevention, and cure; and the safer and more adequate treatment of scarlet fever, measles, and whooping cough.

More than twenty-five years ago Osler said: "Metabolic therapy represents one of the greatest triumphs of science," and he gave the demonstration of insufficiency of the thyroid gland as a brilliant example of experimental inquiry. Since then, vast vistas have been opened in the field of endocrine

Read at the meeting of the Medical Society of the County of New York, October 23, 1941.

Justice of the Supreme Court of the State of New York, formerly industrial commissioner, New York State Department of Labor.

disorders, in dietetics with its vitamins, and in the domain of allergy. There was the gigantic extension of the public health and sanitation services, and there was Herman Biggs with his pronouncement that "public health, within natural limits, is a purchasable commodity." All these are but an attempt to present in broad strokes a picture of medicine's miraculous contributions to humanity.

Let us consider a few concrete illustrations. In 1908 Welch said (I quote from the interesting biography by the Flexners just published): "At least one-half of the existing sickness and mortality from tuberculosis could be prevented within the next two decades by the application of rational and entirely practicable measures." And the Flexners point out that passing years proved this wild-sounding statement not wild at all.

The figures of the Health Department of the City of New York show that the mortality from tuberculosis (of all kinds) in 1908 was 227.2 per one hundred thousand; in 1933, 64.4; and in 1940, 48.6—a remarkable decrease far beyond that envisaged by Dr. Welch.

In a memorable address by Osler on "The Treatment of Disease," delivered before the Ontario Medical Association in June, 1909, that great physician said: "As our knowledge of the pancreatic function and carbohydrate metabolism becomes more accurate, we shall probably be able to place the treatment of diabetes on a sure foundation." Twelve years later came extracts of insulin from the pancreas.

In that same address Osler said: "There are those among us who will live to see a true treatment of pneumonia; we are beginning to learn the conditions of its prevalence; it may yet come within the list of preventable diseases and let us hope that before long we may be able to cope with the products of the pneumococcus itself. . . . It is not likely," he continued, "that the great masters from Galen to Grisolle lost a larger number of cases than we do." Since Osler spoke there have been "flashes of light in the darkness." Now, medicine has offered a real ray of hope to those afflicted with this dread disease. By resort to serums and especially by the use of sulfanilamide and its derivative, sulfapyridine, there has been an amazing reduction in the mortality rate from this disease, and there has even been a substantial increase reported in the number of recoveries from meningitis of streptococci and pneumococci

origin, heretofore regarded as almost invariably fatal.

Perhaps this statement will complete the broad picture of medicine's great accomplishments. In 1900 the death rate in New York City was 20.6 per thousand; in 1940 it was 10.2; in 1938 it had reached the low of 10 per thousand. In 1860 approximately 9 per cent of the population of this country was 50 years or over; in 1932 it was 16 per cent. In New York City in 1900, 15.9 per cent of the population was 45 years or over; in 1940 it was 27.3 per cent. The life expectancy of newborn babies has been greatly extended. In 1901 in this country, an average American-born white girl baby could expect to live 51.1 years; in 1938 that life expectancy had increased to 66.2 years. Now, it is true that this increase in life expectancy has not been accomplished by medicine alone; improvements in sanitation, in water supply, in housing, in education, and in living and working conditions have had a good deal to do with it, but it all centered around the advances in medical science.

While scientific medicine was making these remarkable advances, the philanthropic or voluntary hospitals and their dispensaries (later called outpatient departments) grew rapidly in scope and in variety of service, though they differed in their methods of charges for treatment to those who were able to pay something but could not afford private medical care. In the course of time the hospital has become the center of the medical care and treatment of all groups in the community, rich and poor; medical education for students and for postgraduates has been built up around the hospital, and it is the center of medical research and investigation. The hospital has been the prime factor in the great improvement in the methods and scope of medical instruction, so that today, of all professional men, the doctor is by far the best educated.

In 1909 Osler, after referring to the magnificent progress of medicine, said: "But the best of human effort is flecked and stained with weakness and even the casual observer may note dark shadows in the bright picture." Some of the shadows noted at that time have since been lightened and even completely removed. There is every reason to believe that what today are dark spots on the fabric of medicine will be cleared up within the next quarter of a century. There will be many more "flashes of light in the darkness" during the coming years, and they will come

as the fruition of painstaking, scientific research, some of which is now under way. Medicine will continue to march on triumphantly.

What to a layman appear to be the directions that medicine is likely to take in the future? Generally speaking, there will be an increased emphasis on prevention, on public health work, and on the early recognition of those changes in function which are called disease.

The combat will center around the diseases of adulthood, cancer, and the diseases of the circulatory system, manifested by heart disease, nephritis, and cerebral disorder and hemorrhage.

Attention will be focused on maternity and prenatal care, with a view to bringing about a greater reduction in the maternity death rate and in the mortality rate of infants under one month. We look to the future with a confidence, born of urgent hope, that much greater progress will be made in the prevention and treatment of mental diseases, including the establishment at an early date of a new type of hospital or nursing home—a sort of “preventorium” for incipient mental ailments—to which appropriate cases may be sent without court, or even without voluntary, commitment.

The health of children and of adolescents during their period of education will be of increasing concern, to discover susceptibility to disease, mental as well as physical; to take appropriate measures to prevent its outbreak; and to remedy physical defects before they have had a chance to do much damage.

Greater success will attend efforts made for the preservation of the function of hearing. There will be a determined, courageous fight against syphilis and other venereal diseases—their prevention, treatment, and cure. There will be more attention paid to the problems of metabolism, of nutrition, and of allergy. Medicine will pierce the veil that now obscures the solution of so many of the fascinating and puzzling questions of immunization.

The resources of medicine and its allied sciences will be devoted to an intensified combat on those formidable enemies of man—the viruses and other infectious agents—looking toward the discovery of their mystery and “the suppression of their evil sway.” We recall with dread the epidemics of infantile paralysis and how in the year 1918–1919 influenza claimed more victims than the first World War, which lasted four years.

Surgery will continue its remarkable advance and there will be new miracles of surgical intervention.

To the lay mind, there is a real question as to whether specialism has not developed beyond the actual needs of the profession and of the public. There will continue to be specialists, for to them a good deal of progress in medicine is due. But they will be real specialists, men of intensive training and of outstanding skill in their respective fields. The organized medical profession will continue, and make more effective, the fine work it is doing in the licensure of specialists, and there will be fewer of those self-styled, half-baked specialists who plague us today. I hope—and this, in candor, is more of a hope than an expectation—that medicine will be put back into the hands of the well-trained general practitioner, with group laboratory facilities at his command for diagnostic research and to some extent therapeutic treatment, with reference, of course, to specialists when the nature of the case requires it.

There will be a more concerted movement on the part of the medical profession as a whole for the elimination of social conditions that breed disease. To use the language of the well-known Commission on Education: “Sound medical care requires that the physician understand the importance and the influence of social, economic, and psychological factors, as they contribute to the causation, treatment, and prevention of disease in the individual.” In short, the next era will be one of increasing medical humanism, an era in which not only will human life be prolonged but medicine will help to make that life healthier, happier, and more productive.

Reference must be made to one of the most important problems that medicine has to face in the future—that of medical costs, particularly as they affect the millions of our people in the low-income groups. Dr. Osler in one of his addresses observed: “Of the three factors in practice, heart, head and pocket, to our credit be it said, the first named is the most potent.” The entire history of medical practice, through the ages, demonstrates the truth of this assertion. There has been, and there now is, no more unselfish, self-sacrificing, humanitarian group in the community than the members of the medical profession taken as a whole. The doctor is the symbol of service to society.

There has been a most desirable widening of the scope of governmental activities along health lines—the care in public hospitals of

the mentally afflicted, the tubercular, the sick and disabled war veterans, crippled children, and the victims of venereal disease. Public agencies, such as maternity, prenatal, and child health clinics, have been established in constantly increasing numbers. The government is paying private physicians for the medical treatment of the blind and those who are on relief.

There has also been a great and beneficial extension of social welfare legislation which has resulted in improving living and working conditions—the Factory and Child Labor Laws, the Workmen's Compensation Law, Minimum Wages, Old Age Security, and Unemployment Insurance. Despite all this, there are still millions of low-paid wage earners to whom serious illness, especially if it requires hospitalization, comes as a great catastrophe. It has been urged that we should complete our system of social security, which up to the present has been approved in principle by all of the political parties, so as to include a plan of compulsory health insurance for low-paid wage earners, based upon contributions by the workers, their employers, and the state.

The medical profession is strongly opposed to any such plan, fearing that it would tend to destroy the free and independent practice of medicine. In old age and unemployment insurance there is no element of service to be considered; only cash benefits are involved. In any system of compulsory health insurance the great emphasis is placed not on the cash benefits for loss of wages due to illness but on the furnishing of adequate medical care and treatment. Doctors have done so well, however, in preventing, treating, and conquering disease, and they have been so successful in prolonging human life and making it more enjoyable while it lasts, that many of us who have been zealous in advocating social security legislation have been reluctant to join in the support of a plan for compulsory health insurance which, for its successful administration, depends almost entirely upon the cooperation and support of the medical profession.

Nevertheless, the situation as I see it comes down to this: Either there is likely to be a system of compulsory health insurance for the low-income groups, with the best provisions that can be devised thereunder to maintain proper standards of medical service by private physicians, or there will have to be developed, within the medical profession, adequate plans for voluntary group health

insurance for such low-wage employees which will at least meet their most urgent needs for medical treatment and care during serious illness requiring hospitalization. It is my conviction that the second alternative is today the desirable one. The most significant and most heartening development along this line was announced recently by the Associated Hospital Service of New York. It provides a new medical and hospital insurance plan, known as the Community Ward Service plan, for hospital care and medical treatment in the hospital for employed men and women of limited incomes and their families at premiums ranging from \$12 to \$27 a year.

This plan does not purport to solve the entire problem; it does not deal with the ordinary cases of illness necessitating visits to the doctor at his office or by the doctor to the home. But it does deal with what, to the low-paid worker, are catastrophic episodes in his individual and family life and is, thus, a most important and significant step with great future possibilities. As a layman, I cannot presume, without the most thorough study at any rate, to pass on the actuarial or medical soundness of the plan. There must, of necessity, be a certain amount of experimentation, of reliance on the method of trial and error. Defects and shortcomings, as they appear, may be corrected, for the plan is under the supervision and control of a group of physicians, devoted to the high ideals and fine traditions of the medical profession and responsive to its needs. Experience under this plan will be watched with keen interest all over the country. It is to be hoped that the medical profession and all those concerned with problems of health will give the plan their friendly support and cooperation.

Any plan of health insurance, whether developed from within the profession or without, must leave unimpaired the personal responsibility of the trained physician in the case and treatment of the sick, preserve the independence and initiative of the private physician and his personal relationship to his patient, afford a real freedom of choice of physicians by the sick, safeguard the quality of the medical service and the economic position of the doctor, and emphasize the importance of prevention and research. The organized medical societies and their views, or those of representative bodies of physicians of standing, should be recognized in any such plan.

There should be utilized the experience under the New York State Workmen's Compensation Law, where the quality of medical

service and the position of the doctors have been materially improved in consequence of amendments giving to the organized medical societies a certain measure of control and a corresponding degree of responsibility.

I know of no better way to describe the mission of the doctor in the modern world than by using the beautiful and eloquent words of a great leader of the medical profession on the other side of the Atlantic. I refer to the concluding remarks of Lord Moynihan in an address to the members of his profession when he was President of the Royal College of Surgeons of England:

"To give courage to those who need it, to restore desire for life to those who have

abandoned it, with our skill to heal disease or check its course—this is our great privilege. Ours are not the mild concerns of ordinary life. We who, like the Happy Warrior, are 'doomed to go in company with Pain and Fear and Bloodshed,' have a higher mission than other men, and it is for us so to labour that we may prove not unworthy."

The medical profession will, I am sure, carry on that high mission in a manner worthy of its fine traditions in a world in which there will be an end to man's inhumanity to man, a world in which we shall be able to "pause in living to enjoy life," a world in which peace with freedom and justice and good will shall prevail among all nations.

EXAMINATIONS—AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The general oral and pathologic examinations (Part II) for all candidates (Groups A and B) will be conducted at Atlantic City, New Jersey, by the entire Board, prior to the opening of the annual meeting of the American Medical Association in Atlantic City, on June 8, 1942.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 1, 1942. It will greatly facilitate the work of the Board if applications are filed as far as possible in advance of the closing date for their receipt.

Formal notice of the time and place of these examinations will be sent each candidate several weeks in advance of the examination dates.

Candidates for re-examination in Part II must make written application to the Secretary's Office before April 15, 1942.

As previously announced in the Board booklet, this fiscal year (1941-1942) of the Board marks the close of the two groups of classification of applicants for examination. Thereafter, the Board will have only one classification of candidates, and all will be required to take the Part I examinations.

The Board requests that all prospective candidates who plan to submit applications in the near future request and use the new application form which has this year been inaugurated by the Board. The Secretary will be glad to furnish these forms upon request, together with information regarding Board requirements. Address Dr. Paul Titus, secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

DOCTORS URGED TO WRITE PRESCRIPTIONS

Dr. Frederick Lascoff, assistant professor of pharmacy, Columbia College of Pharmacy, recently decried the effect of high-pressure salesmen in convincing physicians that proprietary medicines are better compounded and cheaper than those prepared by ethical pharmacists. He pointed out that the prescription proprietary of today becomes the patent medicine of tomorrow, and that the prescription should be written to suit the needs of the patient rather than compelling the patient to accommodate himself to the medicine.

He mentioned many medicines that might be prescribed at a considerably lesser cost to the patient than the equivalent proprietary remedy—such as cod-liver oil ointment, phenobarbital instead of veronal, pentobarbital sodium instead of nembutal, and U. S. P. digitalis instead of a trade name digitalis. He recognized that the manufacturers have done a great deal of good by their research work but stated that he felt the manufacturers have gone beyond their field in attempting to take over the field of retail pharmacy.

Dr. Lascoff urged physicians to write prescriptions instead of merely giving the name of a drug verbally. To demonstrate the difficulty that the pharmacist has in pleasing all his physician friends because of their addiction to proprietary prescribing, Dr. Lascoff pointed out that there are 87 different preparations of digitalis and 111 different barbituric acid preparations which the pharmacist must carry in stock.—*Westchester Medical Bulletin*

Two psychoanalysts met: Said one to the other—"You feel fine. How do I feel?"

—J.A.M.A.

"How come you were born in Ireland?"
"Well, you see, I wanted to be near my mother."
—*Annapolis Log*

Therapeutics

CONFERENCES ON THERAPY

THESE are stenographic reports, slightly edited, of conferences by the members of the Departments of Pharmacology and of Medicine of Cornell University Medical College and the New York Hospital, with collaboration of other departments and institutions. The questions and discussions involve participation by members of the staff of the College and Hospital, students and visitors. The next report will appear in the March 1 issue and will concern "Treatment of Some Intestinal Infestations."

Treatment with Sulfonamide Drugs

DR. C. H. WHEELER: In a therapeutic conference held about a year ago and printed in the *NEW YORK STATE JOURNAL OF MEDICINE* for May, 1941, we reviewed the subject of treatment with the sulfonamide drugs. At that time we discussed sulfanilamide, sulfapyridine, sulfathiazole, and sulfadiazine—their relative merits, specificities, and dangers. Many papers have appeared since and new sulfonamide drugs have been introduced. Today, we will attempt to bring the subject up to date. Dr. Modell will discuss the pharmacologic aspects of the subject.

DR. WALTER MODELL: Actually, little has been published to broaden the pharmacologic concepts of the sulfonamide derivatives, but new drugs have been added to the list and therefore it becomes necessary to modernize the order in which one would place these drugs with respect to their different pharmacologic properties.

In choosing a sulfonamide derivative, the clinical characteristics of specificity and ease of administration must be considered. In addition, there are the pharmacologic features that also must be taken into account—the rapidity of absorption and elimination, the degree of acetylation, and the toxicity. By balancing the pharmacologic characteristics against the clinical effectiveness and urgency, one determines which of a rather large list of drugs today available should be used for a particular patient in a particular situation. A comparison of pharmacologic properties becomes extremely useful if one uses this kind of reasoning in choosing a sulfonamide derivative.

Last year we were fortunate to have one of the earliest discussions of sulfadiazine by Dr. Plummer. At that time sulfaguandine had just made its debut, but there was no opportunity to discuss it. I think it was exactly a day before the conference that a paper from the Mayo Clinic presented promin, and since

then another sulfonamide derivative, sulfacetamide, which is not really a "brand" new drug, has been introduced by way of vigorous advertising literature.

The absorption of most of these drugs from the gastrointestinal tract is rather rapid. Sulfanilamide and sulfadiazine are about equal in the rate of absorption, and in three to four hours a peak of blood concentration is reached after a single oral dose. Sulfathiazole is almost as rapidly absorbed; sulfapyridine is much more slowly and much more irregularly absorbed. The sodium salts of these drugs appear to be more rapidly absorbed from the gastrointestinal tract. Sulfaguandine is, on the other hand, poorly absorbed from the gastrointestinal tract. By far the greatest part passes with the fecal mass and out of the body without entering the blood stream. If a dose of sulfaguandine of 0.1 Gm. per kilogram is given every twelve hours, the blood level rarely goes up beyond 3 or 4 mg. per hundred cubic centimeters, and it is this property of poor absorption of sulfaguandine which gives it theoretic usefulness in intestinal infections. It is well to remember, however, that while a high concentration of it is maintained in the feces, it is absorbed in part; it is, therefore, not without systemic effects and dangers.

As soon as any of the sulfonamide derivatives are absorbed, they are diluted by the tissues of the body and permeate all the organs, the exudates, transudates, and fluids. Recently, sulfonamide derivatives have been identified in tears, so that no fluid in the body seems to escape the distribution of sulfanilamide. Although this distribution tends to be uniform, some organs such as bone and fat contain appreciably less sulfanilamide than others. More important is the fact that there appears to be some barrier to the passage of sulfonamides to the cerebral spinal fluid, so that the concentration of any sulfonamide derivative in cerebrospinal fluid is never equal to that found

in the blood stream. In the case of sulfanilamide and sulfapyridine it is generally about two-thirds of the concentration in the blood stream; of sulfathiazole, it is much less, sometimes as little as one-third. In the case of sulfadiazine it is two-thirds, and sometimes even as much as 80 per cent, of the concentration found in the blood stream.

Almost immediately after the sulfonamide derivatives enter the blood stream acetylation begins, a process that takes place primarily in the liver and perhaps to some extent in the spleen. Acetylation is exceedingly important, because by acetylation these drugs lose their therapeutic effectiveness, become somewhat more toxic, and become so much less soluble that if the acetylated drugs are sufficiently concentrated they may precipitate out of the urine into the kidney tubules or urinary tract and cause urinary disturbances.

Sulfadiazine is perhaps the least acetylated of all the sulfonamide derivatives. About 10 or 15 per cent of sulfadiazine is usually found in the acetylated form. Sulfanilamide runs pretty close to this. In the case of sulfathiazole it is perhaps a little more; about 25 per cent of the sulfathiazole is acetylated. For sulfapyridine it is sometimes 50 per cent or more. About 50 per cent of sulfaguanidine is acetylated, but the blood concentration of sulfaguanidine is usually so low that the degree of acetylation is not particularly important.

Sulfacetamide presents a unique feature in acetylation. Sulfacetamide is a sulfonamide derivative that is acetylated in the laboratory. Acetylation of the sulfonamide group as a whole takes place *in vivo* at the amide (NH_2) group. If the sulfanilamide is acetylated *in vitro* at the sulfonamide group (SO_2NH_2), it is intimated by the manufacturers of sulfacetamide that further acetylation *in vivo* is prevented. Sulfacetamide is such a drug. It is relatively nontoxic and is effective against a group of infections, more especially those of the urinary tract. It would be desirable to have a sulfonamide derivative that was not acetylated. It would give the drug a unique and valuable property. What actually happens in the body with sulfacetamide is that a considerable portion of this drug has the laboratory attached acetyl group removed, converting the drug back to sulfanilamide which in turn is acetylated by the liver in exactly the same manner as usual. What finally is present in the body after the use of sulfacetamide is a mixture of sulfacetamide, sulfanilamide, and acetyl-sulfanilamide.

It should be mentioned that the acetylated sulfonamide compounds are more soluble in alkaline than in acid or neutral mediums, and several studies have been published which indicate that the precipitation of crystals of the acetylated form in the urine may be prevented to a considerable degree by the administration of enough sodium bicarbonate to make the urine alkaline.

The sulfonamide drugs vary in their rate of elimination. Perhaps the most rapidly eliminated is sulfathiazole and in descending order sulfanilamide, sulfapyridine and, finally, sulfadiazine, which is perhaps the slowest. For that reason, after a single dose of sulfadiazine, a high blood concentration is maintained for a long period of time.

I should like to separate the toxic effects into two categories: the sensitivities, which cause disturbances, and symptoms which are mainly clinical features seen only in humans and the toxicity demonstrable in animals.

All derivatives of sulfanilamide have been introduced with the claim that they are less toxic and that the lethal dose is higher than that of sulfanilamide. That has been said of sulfapyridine and sulfathiazole, but in the end it has been proved that sulfanilamide is still about the least toxic of the whole group when considered in terms of the lethal dose for animals. But animal experiments usually do not indicate the amount of distress a human is likely to suffer after taking one of these drugs. Sulfanilamide and sulfadiazine are about equally toxic for experimental animals, sulfathiazole comes next in the list and, finally, sulfapyridine, which is the most toxic of the group.

There is still a great deal of debate on the mode of action of these drugs. There are a number of theories that have been presented, but we do not have time to discuss them here, and certainly there is no positive proof as to which type of action is the most important. The trend of opinion is in favor of an antienzymatic effect, which in turn interferes with bacterial metabolism.

A new and interesting phase of this subject is the discovery that para-aminobenzoic acid, which is a constituent of the vitamin B complex, prevents the action of sulfanilamide *in vitro* and *in vivo*, both in the body and in the urine. As yet this has not contributed greatly to our understanding of the action of the sulfonamide group. Para-aminobenzoic acid, which is chemically similar to sulfanilamide, is said to be able to displace it and, therefore, prevent its antienzymatic action. It is im-

portant that although the antibacterial action of a sulfonamide can be prevented by para-aminobenzoic acid this neutralization of action does not extend to toxic effects, cyanosis, vomiting, nausea, and the whole list of symptoms that appear just as frequently whether or not para-aminobenzoic acid is used.

Just a word about promin. It is not really a sulfonamide but is a diaminodiphenylsulfone derivative. It was introduced because of some experimental evidence that it was of value in preventing tuberculosis in animals. Its clinical value is now under investigation and is far from proved.

DR. WHEELER: Dr. Plummer, will you continue the discussion?

DR. NORMAN PLUMMER: The subject of sulfonamide therapy has expanded to such great dimensions during the last few years that one can really only touch on a few highlights of it.

A year ago at this conference I related the story of the development of sulfonamide therapy up to the time when sulfadiazine and sulfaguanidine had had their earliest clinical trials. The preliminary experimental studies indicated that each had advantages over the earlier sulfonamides, and the first clinical trials as reported here were also favorable for each. The past year has shown that our enthusiasm for sulfadiazine was well founded but that the same was not true for sulfaguanidine. Sulfadiazine, with extensive usage, has been found to have the advantages originally described for it.

At a symposium on sulfonamide therapy recently held in Albany, it was the consensus that sulfadiazine was the least toxic and the most useful of all of the sulfonamide drugs. It was intimated strongly that sulfadiazine would displace the others of the group as the drug of choice in every infection responding to sulfadiazine. At this same symposium there was little said about sulfaguanidine. Dr. Marshall, on direct questioning, stated that he believed the value of sulfaguanidine had been proved only in certain bacillary dysenteries. He favored sulfadiazine or sulfathiazole over sulfaguanidine for prophylactic use in surgery of the intestinal tract. He emphasized the importance of observing all of the precautions against toxic reactions.

At the New York Hospital and at Bellevue Hospital we have reviewed the records of 457 patients who received 10 Gm. or more of sulfadiazine for manifestations of toxicity. In this series gross hematuria and renal colic were the most serious reactions and occurred in 7

cases, subsiding promptly in each on cessation of sulfadiazine therapy and at no time causing anuria. Drug rash with fever was the only other reaction of significance, and this occurred in 10 cases. There was no case of hemolytic anemia or agranulocytosis but, since making this review, 1 patient died of acute thrombocytopenia, which developed while receiving sulfadiazine. In 457 patients a mild leukopenia developed five times and an anemia once. There was stomatitis in 1 patient and temporary partial deafness in another. Nausea and vomiting were almost negligible.

At the Albany symposium the physicians were canvassed for information regarding serious toxic reactions following the use of sulfadiazine. There was an experience with several thousand cases. No instance of severe hemolytic anemia and none of toxic hepatitis was known to have occurred. Dr. Finland reported 1 case of agranulocytosis following the administration of sulfadiazine and 1 case of anuria, the latter after a gross misuse of the drug. There was no other case of thrombocytopenia than the one we described.

During the past year a great deal has been learned about the modes of administration of the sulfonamide preparations. While there are some striking differences between sulfapyridine, sulfathiazole, and sulfadiazine, many of their chemical and pharmacologic properties are the same. All three of these drugs are poorly soluble in water, although they are well absorbed from the gastrointestinal tract. The sodium salt of each of these drugs is highly soluble, so that solutions up to 50 per cent or even higher can be prepared, but these are highly alkaline and, when applied to the mucous membranes or denuded tissues, they are irritating. Soon after the introduction of sulfapyridine, it was found that because of its low solubility it could not easily be administered parenterally. When sodium sulfapyridine was described, pharmacologists strongly advised against its use because of its high alkaline reaction. They believed that severe tissue damage would be produced. Cautiously, dilute solutions of sodium sulfapyridine were tried intravenously, and after a time this became an accepted method of administration.

The most recent experience has been with sodium sulfadiazine. This sodium salt is soluble to the extent of approximately fifty parts in one hundred parts of water and is slightly less alkaline than the sulfapyridine salt. It has been recommended that the so-

dium sulfonamide drugs be administered in 5 per cent solution in sterile distilled water. During the past year, here and at Bellevue, we have administered intravenously routinely 25 per cent sodium sulfadiazine in distilled water. This has been a greatly simplified procedure because we have had the preparation in sterile ampules and have required only a 10- or 20-cc. syringe and a needle. We have used a small gauge needle and have made the injections slowly. Up to the present there have been no local or general reactions that would contraindicate this method.

By intravenous injection it is possible to establish immediately in the blood stream the desired concentration of drug. Having proved this to be a safe and practical method, there is found a large group of the more seriously ill patients who will benefit by the intravenous therapy, at least at the beginning of treatment. Furthermore, there is good clinical evidence that the organisms are more susceptible to the sulfonamide drugs when a proper concentration is obtained quickly rather than gradually. On this basis it may be sound therapeutics to initiate sulfonamide therapy always by intravenous injection and to maintain it by oral administration.

The sodium salts, in spite of their high alkalinity, have been administered through about every possible channel. They have been given orally, rectally, subcutaneously, intramuscularly, intrapleurally, intraperitoneally, intraspinally and, more recently, in ointments, lotions, and sprays applied locally to the skin and mucous membranes. The relative value of each of these methods has not been fully established, and there remains a definite question as to whether the local treatment ever has any advantage over internal administration. The value of local use may depend entirely upon the absorption into the blood.

A few remarks about the various less common methods of administering the sulfonamide drugs seems appropriate. During the past year Dr. Wheeler and I have studied 57 patients with a variety of infections who received sodium sulfadiazine orally rather than sulfadiazine. These patients, so far as we could ascertain, responded in the same manner as did patients treated with the usual sulfadiazine medication. Furthermore, we were unable to recognize any differences in toxicity, and there was no evidence of local irritation of the stomach or intestine such as the occurrence of nausea or vomiting. We did discover the same pharmacologic advantages

that had already been described following sodium sulfapyridine orally. The concentration of sulfadiazine in the blood rises more rapidly and to a definitely higher level following the sodium salt than it does after sulfadiazine is given in equal dosage. It would seem from this finding that the sodium preparation is a superior one even for oral usage.

Taplin, Jacox, and Howland demonstrated that 3.0 to 7.0 Gm. of sodium sulfapyridine could be administered safely and without additional discomfort in the usual saline hypodermoclyses. Recently, in some clinics sodium sulfadiazine has been administered in the same manner with satisfactory results. It has been used in this institution on a few occasions. This affords the most convenient and effective way of administering the drug in an occasional case. However, when parenteral treatment is required, the intravenous route is most often preferred.

Following rectal instillation, all of the sulfonamide drugs are absorbed slowly. However, this applies to the sodium salts to a lesser degree. There seems to be little or no indication for the rectal use of the sulfonamide drugs, and this mode is to be discouraged.

It is a question which of the preparations, the insoluble base or the strongly alkaline sodium salt, one would consider less hazardous for intrapleural, particularly intraperitoneal and intraspinal, administration. I have a suspicion that some of the enthusiasm that has followed this radical therapeutics has arisen from having "got away with the procedure" rather than from a striking clinical result. But there may be something gained from knowing that the drug can be administered through these channels. The rationale is not strong for injecting the sulfonamide drugs directly into the body cavities because high levels do not seem to be advantageous and the necessary levels can be obtained so much more satisfactorily by oral or parenteral administration.

This brings up the question of the value of the sulfonamides for local application. This could be a treatise in itself, and I have time for only a few of the more pertinent observations regarding it. Sulfanilamide and, recently, sulfadiazine have been used locally in abdominal surgery, and there have been enthusiastic reports on these cases. Most of these patients, however, were receiving the drugs parenterally or orally in addition, so that the value of the local applications cannot be accurately estimated. For myself, in these cases, I should feel a great deal safer with the

systemic treatment than with the local. Another factor that makes evaluation difficult is that whenever the drug is applied locally there is always absorption, sometimes with an appreciable blood concentration.

At Bellevue Hospital we have seen the treatment of a number of patients with empyema with the various sulfonamides intrapleurally. My own impression regarding these cases is that even though some of them had high concentrations of the drug in the pleural fluid there was no alteration in the bacterial flora of the fluid and no change in the course of the disease. On the other hand, there was no particular ill effect from using the drug in this manner. Sodium sulfathiazole solution has been used by the otolaryngologists for irrigating infected sinuses. I am sure that all of you are following the controversy concerning the interpretation of the results in these cases. Some nose and throat men, of course, are extremely enthusiastic, and others feel there is nothing to it at all.

Undoubtedly there are two sides to the argument concerning local therapy. We have seen a few cases of burns treated with a preparation of sulfadiazine and triethanolamine. The areas of granulating tissue appear clean and healthy. Compound fractures and various traumatic wounds treated with sulfonamide packs usually appear remarkably free from infection. These cases and others convince one that the sulfonamides have a significant local action. To evaluate it and to define the local and general indications remain one of our important problems.

I want to present one other topic that is even more controversial: the prophylactic use of the sulfonamides. When we were working with such a drug as sulfapyridine, this was not so important, because the toxic reactions were so bothersome, particularly the nausea and vomiting, that no one would use the drug except in case of great necessity. The situation with sulfadiazine is much different. The toxic reactions from it are so uncommon that there is great temptation to use it in minor infections and also as a preventive measure.

Already, with sulfanilamide, important studies have been carried out on the prevention of rheumatic fever in susceptible individuals. Groups of children here in New York City and in Baltimore who already have had one or more attacks of rheumatic fever or one of the related diseases were given sulfanilamide in small dosage daily during the winter and spring months when streptococci

infections occur most frequently. In both groups there was a greatly reduced incidence of rheumatic fever and streptococcal infections as compared with the control groups. In the Baltimore series none of the 55 treated children had a major attack of rheumatic fever, while in the control group 15 cases occurred. The small daily dosage of sulfanilamide produced no recognizable toxic reactions in either study.

In many fields of medicine the prophylactic value of the sulfonamides is being investigated. The following represent a few of them: (1) prevention of scarlet fever and septic sore throat among the contacts of patients with these diseases; (2) prevention of complications of measles and whooping cough; (3) prevention of complications of colds and influenza; (4) prevention of urinary tract infections following catheterization, cystoscopy, and other urologic surgical operations; (5) prevention of sepsis following oral and nose and throat surgery; and (6) prevention of local and general infections developing from operative and traumatic wounds.

Prevention of infection in surgery is probably one of the most important prophylactic uses of these drugs. I am referring here to the administration of sulfonamides by mouth or by vein preoperatively. Their use in appendicitis, particularly when there is a possibility of ruptured appendix and peritonitis, is quite generally practiced. In surgery on the colon or stomach in which peritonitis or a more general infection is a constant danger, these drugs seem to have a real value.

Many thoracic surgeons are using the sulfonamide drugs preoperatively in the more extensive procedure such as thoracoplasty and lobectomy. It is the impression that in addition to preventing infection at the site of the operation the prophylactic use of these drugs greatly reduces the incidence and hazards of postoperative pneumonia. This subject of the use of sulfonamide therapy in surgery is a timely one, and I know that we are going to hear more about this from Dr. Bowers.

Before concluding, I want to say a few words about the results that are being obtained with sulfadiazine in some of the more important diseases, particularly pneumonia.

Sulfadiazine has been given extensive trial in pneumococcal pneumonia, and most encouraging reports on its use have appeared from the services of Flippin in Philadelphia, Finland in Boston, and Dowling in Washington. The fatality rates have been as low or

lower than after any of the other sulfonamide drugs, and the incidence of toxic manifestations has been particularly low.

Drs. Ensworth, Kalkstein, Barefoot, Liebmann, and I have just completed an analysis of the records of 239 patients with pneumococcic pneumonia treated with sulfadiazine at Bellevue Hospital. The fatality rate was 10.9 per cent—7.8 per cent when the twenty-four-hour deaths were excluded. There were only 2 deaths among the 86 patients under 51 years of age—one of these died in less than twenty-four hours after admission. These fatality rates must be near the lowest that it will be possible to obtain. It has been stated that patients no longer die of uncomplicated pneumonia. An analysis of the 26 fatalities in our series treated with sulfadiazine almost completely bears out this statement. This group included 8 patients who died in less than twenty-four hours after admission. It also included 8 with serious cardiac disease; 2 with diabetes; 1 in coma; 1 with nephritis and uremia; 1 with acute lymphogenous leukemia; 1 with myocardial infarction; and 3 patients admitted late who were found to have pneumococcic endocarditis. One wonders if there is a single patient in this list who might have been saved by a theoretically perfect pneumonia therapy. We might select 2 or 3 possible recoveries.

How might they be saved? Serum, perhaps? But such cases are almost always the "late therapies," when theoretically and practically serum has little or no value. Such reasoning does not add to one's optimism over the future of antipneumococcus serum. On the other hand, it does support the important dictum of early diagnosis and early treatment.

The dramatic results following sulfadiazine that I have just reported for pneumonia are being duplicated in other infections such as meningococcic meningitis, gonorrhea, and some of the urologic and surgical conditions. I regret not having time to present the details of these results.

DR. WHEELER: Dr. Bowers will discuss the prophylactic use of the sulfonamide drugs in surgery.

DR. RALPH F. BOWERS: Dr. Plummer has introduced this phase of the subject aptly, but I think to really appreciate the results obtained with this drug you should know something of our experience. Formerly, in abdominal surgery—and that is the type of case in which we have used these drugs—surgeons have made all sorts of efforts to develop "im-

munity" in the peritoneal cavity. They have performed multiple-stage operations; they have given vaccines; they have administered other chemotherapeutic agents into the peritoneum. The literature is replete with the good results obtained, except that they were never perfect.

It occurred to some of us that if the sulfonamides brought about a decrease in the number of mastoid infections following middle-ear disease and have almost taken away from our wards Ludwig's angina, cellulitis of the leg, and many other infections I could mention, then it might be of benefit in abdominal surgery to prevent serious infection.

In the management of seriously infected abdominal lesions, one wishes to eliminate the complications that are responsible for deaths. The most important of these are peritonitis, extensive localized infections, pneumonia, evisceration, or a combination of these terrifying conditions. The mortality in surgery of the colon, for instance, ranged between 20 and 25 per cent due to the above-mentioned complications. About a year and a half ago I began using the sulfonamides prophylactically to prevent or treat the bacteremia or septicemia that may be produced by handling and manipulating an infected organ. Even in so simple a procedure as passing a catheter, bacteremia can be demonstrated in 40 per cent of the patients who experience a chill after the catheterization.

I cannot go into all the types of cases in which we have used these drugs, but I want to mention some of them. In appendicitis, when we feel reasonably sure that we are also dealing with peritonitis, before operating we first give a sulfonamide clysis. At present, we give sodium sulfadiazine intravenously so that when the patient is ready for the operation he has a blood level around 3.5 to 4 mg. per hundred cubic centimeters. This is maintained by the intravenous route of administration. Then, as soon as the patient is able, he takes the drug by mouth. The administration of the drug is continued for a period of about one week. Our results with this method have been gratifying.

The drugs have been used prophylactically in cases of infected tumors of the large bowel, rectum, sigmoid, descending colon, cecum, ascending colon, and stomach, as well as in cases of ulcerative colitis which require resection and in those with particularly severe infection which require colectomy. I do not mean to imply that use of the drugs compensates for "sloppy" surgery. They must be

used as an adjunct to good surgery and not a substitute for it.

In all but a few patients of our present series of 38 the wounds have healed *per primam*. In some cases a mild infection has developed. Simple opening of these has resulted in prompt healing of the wound. There has not been a single case of evisceration, nor have we had an instance of postoperative pneumonia in this group of cases with infected tumors in the abdomen, in which pneumonia has ordinarily been apt to develop and in which the mortality due to infection is high.

I feel so enthusiastic about our results with this method of treatment that at the risk of exaggerating I should say that for these cases the sulfonamides, so far, have provided the only real "immunity" from infection.

DR. WHEELER: The meeting is now open for questions.

DR. JANET TRAVELL: I wonder if Dr. Plummer would briefly outline the dosage plans used with sulfadiazine.

DR. PLUMMER: In the treatment of pneumonia we have decided on 4 Gm. as the initial dose. This is in the adult patient.

DR. TRAVELL: By mouth? By vein, or how?

DR. PLUMMER: The method as we have been using it is 4 Gm. by mouth as the initial dose and then 1 Gm. every four hours by mouth. We usually give a total dosage of about 20 Gm. in the uncomplicated case. This procedure is modified at times to include an initial dose of 2.5 Gm. intravenously.

DR. TRAVELL: When do you stop using the sulfadiazine?

DR. PLUMMER: We believe it is a good plan to continue it for at least twenty-four hours after the temperature has subsided.

DR. MODELL: What blood level of sulfadiazine is considered desirable?

DR. PLUMMER: We do not know what the most desirable blood level is. With the dosage outlined, usually a level of between 8 to 12 mg. per hundred cubic centimeters is reached.

DR. TRAVELL: When you give the sodium sulfadiazine by vein, do you start with an initial dose of 4 Gm.?

DR. PLUMMER: When we give sulfadiazine intravenously, we give 2.5 Gm. We have it made up in ampules of 10 cc. of a 25 per cent solution, which makes it more convenient to give the 2.5 Gm.

DR. TRAVELL: You give the first dose orally at the same time?

DR. PLUMMER: Yes, we give the first oral dose at the same time.

DR. MODELL: Last year we had some unfinished business. When the conference closed we were talking about the status of sulfapyridine and the sulfonamide derivatives in subacute bacterial endocarditis, and we closed the subject on a pessimistic note. Can we change that note today?

DR. WHEELER: Will you make a statement, Dr. Deitrick?

DR. JOHN B. DEITRICK: I can say we have not found the sulfonamide drugs effective in this hospital in the treatment of subacute bacterial endocarditis. We have used it on nearly 50 patients, starting with the sulfanilamide in 1937, then sulfathiazole, then sulfapyridine and sulfadiazine. To my knowledge only 1 is alive of the entire group. I know 38 are dead. Five or 6 left the hospital while the disease was in a definitely progressive state. We have patients in whom a normal temperature results, but in our experience, if the blood cultures are incubated for fifteen or twenty days, the organisms will always be found, although the plates may be negative at ten days. You may not see a colony on the tenth day, but if you subculture and add special mediums they will grow more rapidly.

DR. MODELL: What about the use of heparin?

DR. DEITRICK: The only thing I know that heparin will do is to keep the clot from forming. This is one of the protective mechanisms of the body, because with the fibrin the infection might be warded off. With heparin you prevent fibrin forming around the organism. In this hospital we are not in favor of the use of heparin, but I must admit we do not know enough about it.

DR. HAROLD G. WOLFF: May I ask whether the cerebrospinal fluid determinations of the various drugs take into account the long lag before equilibrium is reached between blood and the spinal fluid? Perhaps hours pass before they approach each other.

In the case of blood sugar in diabetes, it is ten to twenty hours before the spinal fluid level approaches that of the blood. In the case of sulfadiazine would it be two-thirds of that level after equilibrium has been established?

DR. MODELL: Many cerebrospinal fluid determinations were made after eight or ten days of therapy—days after equilibrium had been reached and a constant level maintained in the body—yet the discrepancy between the

level in the cerebrospinal fluid and the blood continued.

DR. WHEELER: Dr. Wolff's point is illustrated in many of our patients in whom several spinal fluid determinations were made in a single day with simultaneous determinations in the blood. Occasionally, at the time of the second lumbar puncture, the cerebrospinal fluid level was higher than the blood level, corresponding to the blood level that was present six or eight hours previously, thus demonstrating a lag.

INTERN: Dr. Plummer mentioned prophylaxis in rheumatic fever. The important point is to prevent the streptococcic infection. Once that had been established no amount of drug is of value. Furthermore, a patient suffering from acute rheumatic fever is not one to whom it is advisable to give sulfanilamide, and frequently such a patient is harmed by the drug. It is a prophylactic to prevent the streptococcic infection. Once a streptococcic infection has been established there is no point in continuing the sulfanilamide.

DR. MODELL: I should like to mention in this connection a patient in a series of children with rheumatic heart disease who were receiving 2 Gm. of sulfanilamide daily over a period of time as a prophylactic. One of these children, while receiving this dose developed a full-blown case of subacute bacterial endocarditis and, subsequently, died despite the use of other sulfonamide drugs.

DR. WHEELER: I think perhaps we may have gone too far on this. I believe we have not stressed enough the factor of the toxicity of these drugs. When one talks about their prophylactic use, one must remember that their use is attended by considerable risk and that they are not yet so bland as we would like to have them. For example, in the last six weeks we have had 2 patients in this hospital who died as the result of these drugs. One of these patients died from agranulocytosis and the other from thrombocytopenia.

DR. TRAVELL: It would seem, from the point of view of the surgeon, that the risk of withholding sulfonamide drugs might be greater than administering them.

DR. WHEELER: I do not think that Dr. Plummer would want you to carry the impression from here that these drugs are safe to use prophylactically for minor conditions like sinusitis and the common infections of the upper part of the respiratory tract. A good many practicing physicians are using them for those things, but I do not think we would agree with that.

DR. PLUMMER: I wanted to indicate that this field of prophylactic use at the present time is receiving a great deal of consideration. Dr. Bowers indicated the studies in surgery. I know that there is one study being carried out and another one planned on the use of these drugs in colds, with the idea of preventing the serious complications. We must recognize that 95 per cent of cases of pneumonia start with a cold, so that pneumonia is a complication of it. Also, there are cases of mastoiditis and cases of acute sinusitis which start similarly.

VISITOR: At a conference here some time ago it was suggested that sulfonamide drugs may be of some use in acute poliomyelitis. I wonder if anything more definite may be said about this?

DR. PLUMMER: There have been two or three articles published on this subject. The acute stage of poliomyelitis might be affected slightly by the sulfonamide drugs. One of the papers states that the amount of paralysis is less when the sulfonamide drugs are used during the acute stage. Again, there is no strong evidence for this, and I think it is most likely that these drugs affect the course of poliomyelitis very little.

VISITOR: Some patients suffer distressing symptoms from exceedingly small doses of sulfonamides. Are we to interpret that as a toxic reaction, a sensitivity, or an allergic phenomenon due to sulfonamide derivatives?

DR. WHEELER: Dr. Plummer, would you like to answer that?

DR. PLUMMER: That would require some time, but I should like to say that there is a great deal of discussion regarding the mechanism of these reactions. Certainly we know that the hematuria is caused by a mechanical irritation by the sulfonamide crystals. The fevers and rashes, I think, we know little about. They may be allergic.

DR. WHEELER: In the group of 24 cases with toxic reactions which we have studied here in this hospital, there was no correspondence between the duration of treatment, the total amount of drug given, or occurrence of reaction. In other words, a patient is just as likely to have reactions after treatment for three days as after a month.

DR. TRAVELL: Was there any correlation with the blood level?

DR. WHEELER: No.

DR. TRAVELL: One occasionally meets the statement that there is a synergism between sulfonamide derivatives and the barbiturates. Would Dr. Modell comment on that?

DR. MODEL: That statement is based on work with animals in which anesthetic doses of barbiturates were used. With that degree of narcosis there appears to be a toxic, and not therapeutic, synergism. This, however, does not appear to have any bearing on the treatment of humans when small hypnotic doses of barbiturates are used. A survey of a large series in which barbiturates and sulfonamide derivatives were used simultaneously in patients with pneumonia bears this out.

STUDENT: Is there any point in giving sulfapyridine in glucose solution because of the compound formed?

DR. WHEELER: Sulfapyridine with glucose is inert and has no appreciable effect as such. When given orally, it is broken down and absorbed as sulfapyridine and the effect is the same as sulfapyridine.

DR. PLUMMER: It should be pointed out that this applies to all of the sulfonamide drugs. They form an inert glucose compound. For this reason it is unwise to give any of the sulfonamide drugs in glucose solutions.

I think it should be added that promin, which is being investigated in tuberculosis, is also a dextrose combination and probably is just as inert as glucose-sulfapyridine. Given by mouth it probably breaks down into glucose and the active drug, diaminodiphenylsulfone. When given intravenously most of the drug remains in the form of the inert glucose compound.

DR. WHEELER: Dr. Modell, will you sum up for us?

DR. MODEL: Each year we are confronted, and probably will continue to be confronted,

with new additions to the group of sulfonamide derivatives and closely related drugs, and in each new case the problem will arise whether the weighting of its therapeutic value against its toxicity makes the new addition a valuable one. The fundamental pharmacologic and even clinical properties remain similar; the differences between new derivatives are mainly quantitative. The search for a derivative that will be polyvalent, pleasant to take, and nontoxic has not met with striking success. Some of the newer drugs cause less distress, some have a wider antibacterial usefulness, but none is so much less toxic or less dangerous than sulfanilamide itself that the factor of toxicity may be forgotten. Pharmacologic properties, such as differences in the rates of absorption or elimination, type of distribution through the body, degree of acetylation, and the therapeutic specificities, may lead to the choice of one drug over another in a particular case.

Dr. Plummer feels that sulfadiazine may displace all other sulfonamides for most purposes because it presents a combination of clinical effectiveness, low toxicity, and ease of therapy for the patient. In order to exploit its therapeutic potentialities the blood level of the free and acetylated fractions of the drug in the blood stream must be carefully followed in each patient. Without this, one has no notion of whether more or less of the drug is required or whether toxic levels are being approached. And, in addition, if serious mishaps are to be avoided, regular and frequent examinations of the cellular elements of the blood and urinalyses must be made.

A COURSE IN PRACTICAL ORAL PATHOLOGY TO BE GIVEN

A short course in Practical Oral Pathology will be given by Professor Lester R. Cahn at the School of Dental and Oral Surgery of Columbia University in April, 1942. It is the purpose of this course to present the pathology of the oral cavity in such a way that the practitioner will be aided in recognizing and treating the commoner diseases of the mouth.

The following subjects will be discussed: inflammation; diseases of the jaw bones; tumors;

lesions of the soft tissues including the blood dyscrasias and the avitaminoses; the biopsy and methods of performing this important diagnostic operation; indications for clinical laboratory tests; and the interpretation of laboratory reports.

The seminar method of teaching will be used. There will be recourse to case histories as much as possible, and free discussion will be encouraged. —HOUGHTON HOLLIDAY, Associate Dean

QUIZ ENDS WHIZ

The human brain is certainly a wonderful organ. It starts functioning the minute you get up and never stops until you get in quiz section. —Dodo

TOP HEAVY

Scientists find that the human brain is more than three-fourths water. Perhaps that's why some people go around in a perpetual fog. —Health Digest

Maternal Welfare

From time to time under this heading articles will appear on obstetric subjects which are deemed of importance as aids to improvement of maternal welfare in New York State. The members of the committee are Charles A. Gordon, M.D., Chairman; Alexander F. Martin, M.D., James K. Quigley, M.D.; and Ferdinand J. Schoeneck, M.D.

Obstetric Consultant Service

NATIONAL funds have been available for some time to provide obstetric consultation for cases needing such service but unable to pay for it. The Maternal, Infancy and Child Hygiene Division of the New York State Department of Health and the Subcommittee on Maternal Welfare of the Medical Society of the State of New York have been actively interested in establishing such a service in New York State. This subject has received considerable attention and is now at the stage of being actually set up so that the plan can be put in operation.

Two years ago the Subcommittee on Maternal Welfare divided the entire state into twelve regions and appointed a Regional Chairman in each district. This plan had as its object the establishing of methods and means of improving obstetric conditions in general and the facilitating of postgraduate education. The present plan, however, intends to provide actual obstetric consulting service. It is the intent to have such consultants available in all parts of the state so that the local physician caring for an obstetric patient may call in the consultant for any complication that might develop. It is hoped that even in the most remote parts of the state such service will be available within a 50-mile radius of any particular point.

Trained obstetricians are available in most localities of the state at the present time. However, a survey by the Subcommittee on Maternal Welfare does show that there are some areas where this condition does not exist. In these areas, however, obstetricians are almost invariably available from adjacent counties or nearby communities. It is the aim of the plan to have available consultant service in all areas so that the individual physician needing obstetric consultation for any emergency can get such help by contacting the district health officer who will have the list of consultants.

This service will be limited to those patients who are, in the opinion of the attending physician, unable to afford a private consultant. This would include welfare cases, but these patients need not have a recognized relief status. The plan is not intended to interfere with the present custom of consultation in private practice. The object is to provide consultant service for pa-

tients unable to pay for private consultation.

The matter of compensation will be handled by the State Department of Health. Following the providing of consultant service, each consultant will be expected to submit a brief statement including the name and address of patient, the date, and the condition for which consultation was secured to the district health officer in order that arrangements may be completed for his receiving the stipulated fee (\$15 including travel) from the State Health Department. This plan will not change the status of compensation for local physicians handling welfare cases.

The qualifications for obstetric consultants are listed as follows: (a) graduate from an approved school of medicine; (b) one year's internship; (c) not less than four years' training and experience in obstetrics, at least two years of which have been spent in graduate specialized training; and (d) preferably limit work to obstetrics.

These qualifications have been interpreted to include licentiates of the American Board of Obstetrics and Gynecology.

The various county societies are being canvassed to provide the Subcommittee on Maternal Welfare with lists of qualified obstetricians who are willing to cooperate in this service. The lists will then be submitted to the State Department of Health. Appointment to the consulting service will then be made by the State Department of Health and the lists will be supplied to the local district health officers.

It is the studied opinion of the Subcommittee on Maternal Welfare that such a state-wide obstetric consultant service will be of definite value.

In the present emergency it is somewhat difficult to arouse enthusiasm over any matter that does not apply directly to national war effort. The matter of maternal welfare is one that is extremely important, in peace time. A little thought will show that it is equally important during an emergency, perhaps, even more so. The Subcommittee on Maternal Welfare, therefore, requests that this matter be given due consideration and asks the cooperation of all physicians in the state whose services, directly or indirectly, may make this plan a success.

Medical Preparedness

[The following letter and release were received on January 19, 1942.—Editor]

Editor, Journal American Medical Association
Editors, State Medical Journals
Secretaries, State Medical Associations

Inasmuch as this material represents one of the most important responsibilities of the medical profession at the present time, it is the opinion of the Assignment and Procurement Service that it deserves the most prominent place in your Journal it can be given. It is of equal importance to doctors themselves since it clarifies quite largely the demands which will be made upon the medical profession.

Sincerely yours,

FRANK H. LAHEY, M.D., *Chairman*
HARVEY B. STONE, M.D.
JAMES E. PAULLIN, M.D.
HAROLD S. DIEHL, M.D.
C. WILLARD CAMALIER, D.D.S.

SAM F. SEELEY, M.D.
Executive Officer

Recommendations to All Physicians with Reference to the National Emergency

I. Medical Students

A. All students holding letters of acceptance from the Dean for admission to medical colleges and freshmen and sophomores of good academic standing in medical colleges should present letters or have letters presented for them by their deans to their local boards of the Selective Service System. This step is necessary in order to be considered for deferment in Class II-A as a medical student. If local boards classify such students in Class I-A, they should immediately notify their deans and if necessary exercise their rights of appeal to the Board of Appeals. If, after exhausting such rights of appeal, further consideration is necessary, request for further appeal may be made to the State Director and if necessary to the National Director of the Selective Service System. These officers have the power to take appeals to the President.

B. Those junior and senior students who are disqualified physically for commissions are to be recommended for deferment to local boards by their deans. These students should enroll with the Procurement and Assignment Service for other assignment.

C. All junior and senior students in good standing in medical schools, who have not done so, should apply immediately for commission in the Army or the Navy. This commission is in the grade of Second Lieutenant, Medical Administrative Corps of the Army of the United States, or Ensign H.V. (P) of the United States Navy Reserve, the choice as to Army or Navy being entirely voluntary. Applications for commission in the Army should be made to the Corps Area Surgeon of the Corps Area in which the applicant resides and applications for commission in the Navy should be made to the Commandant of the Naval District in which the applicant resides. Medical R.O.T.C. students should continue as before with a view of obtaining commissions as First Lieutenants, Medical Corps, upon graduation. Students who hold

commissions, while the commissions are in force, come under the jurisdiction of the Army and Navy authorities and are not subject to induction under the Selective Service Act. The Army and Navy authorities will defer calling these officers to active duty until they have completed their medical education and at least 12 months of internship.

II. Recent Graduates

Upon successful completion of the medical college course, every individual holding commission as a Second Lieutenant, Medical Administrative Corps, Army of the United States, should make immediate application to the Adjutant General, United States Army, Washington, D. C., for appointment as First Lieutenant, Medical Corps, Army of the United States. Every individual holding commission as Ensign H.V. (P), U. S. Navy Reserve, should make immediate application to the Commandant of his Naval District for commission as Lieutenant (J.G.) Medical Corps Reserve, U. S. Navy. If appointment is desired in the grade of Lieutenant (J.G.) in the regular Medical Corps of the U. S. Navy, application should be made to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

III. Twelve Months' Internes

All internes should apply for a commission as First Lieutenant, Medical Corps, Army of the United States, or as Lieutenant (J.G.), United States Navy or Navy Reserve. Upon completion of 12 months' internship, except in rare instances where the necessity of continuation as a member of the staff or as a resident can be defended by the institution, all who are physically fit may be required to enter military service. Those commissioned may then expect to enter military service in their professional capacity as medical officers; those who failed to apply for commission are liable for military service under the Selective Service Acts.

IV. Hospital Staff Members

Internes with more than 12 months of internship, assistant residents, fellows, residents, junior staff members, and staff members under the age of 45, fall within the provisions of the Selective Service Acts which provide that all men between the ages of 20 and 45 are liable for military service. All such men holding Army commissions are subject to call at any time and only *temporary deferment* is possible, upon approval of the application made by the institution to the Adjutant General of the United States Army certifying that the individual is temporarily indispensable. All such men holding Naval Reserve commissions are subject to call at any time at the discretion of the Secretary of the Navy. Temporary deferments may be granted only upon approval of applications made to the Surgeon General of the Navy.

All men in this category who do not hold commissions should enroll with the Procurement and Assignment Service. The Procurement and Assignment Service under the Executive Order of the President is charged with the proper distribution of medical personnel for military, governmental, industrial, and civil agencies of the entire country. All those so enrolled whose services have not been established as essential in their present capacities will be certified as available to the Army, Navy, governmental, industrial, or civil agencies requiring their services for the duration of the war.

V. All Physicians Under Forty-Five

All male physicians in this category are liable for military service and those who do not hold

commissions are subject to induction under the Selective Service Acts. In order that their service may be utilized in a professional capacity as medical officers, they should be made available for service when needed. Wherever possible, their present positions in civil life should be filled or provisions made for filling their positions, by those who are (a) over 45, (b) physicians under 45 who are physically disqualified for military service, (c) women physicians, and (d) instructors and those engaged in research who do not possess an M.D. degree whose utilization would make available a physician for military service.

Every physician in this age group will be asked to enroll at an early date with the Procurement and Assignment Service. He will be certified for a position commensurate with his professional training and experience as requisitions are placed with the Procurement and Assignment Service by military, governmental, industrial or civil agencies requiring the assistance of those who must be dislocated for the duration of the national emergency.

VI. All Physicians over Forty-Five

All physicians over 45 will be asked to enroll with the Procurement and Assignment Service at an early date. Those who are essential in their present capacities will be retained and those who are available for assignment to military, governmental, industrial or civil agencies may be asked by the Procurement and Assignment Service to serve those Agencies.

The maximal age for original appointment in the Army of the United States is 55. The maximal age for original appointment in the Naval Reserve is 50 years of age.

All inquiries concerning The Procurement and Assignment Service should be sent to The Executive Officer, 5654 Social Security Building, 4th and Independence Avenues, SW, Washington, D. C., and not to individual members of the Directing Board or of committees thereof.

[The article reprinted below is from the December issue of the Nassau Medical News and tells in brief how Nassau County has been organized for wartime emergency. The thorough preliminary work accomplished during the past year and a half effected mobilization of doctors within a few minutes after the air-raid alarm sounded on December 9.—Editor]

The Society Mobilizes

EIGHTEEN months ago the Medical Preparedness Committee of this Society started planning for the possibility of war reaching our borders. The air-raid alarm of December 9 therefore found us with plans well advanced and within a very few minutes the doctors of the county were mobilized and ready for any casualties which might have resulted. At the request of the Nassau County Defense Council, the Society drew up plans which have been accepted and approved by the Nassau County Defense Council which issued General Orders

No. 2 on December 12 under which a large share of the doctors were assigned to definite duty in the event of emergency.

Hospital—the Focal Point

We can safely say to the people of the county that the doctors are ready, but in saying so we feel that the people should also be told what we have done and why we have done it. Every phase of this complicated problem might not be immediately apparent to one who has not been closely associated with it.

The experience with civilian casualties in Spain and in England has demonstrated very clearly that the hospital is the most important link in the chain of civilian medical protection. In fact it has been stated that the less work there is done outside of the hospitals, the lower will be the mortality rate of civilian air raid victims. The Office of Civilian Defense in Washington recognizes this fact, and in their outline of recommended procedure the hospital becomes the focal point for all civilian medical preparations.

Local Defense Councils

Again, the county has been divided into 55 local defense councils. Some of these councils have large areas with scattered population and few or no doctors. Others with concentrated population have plenty of doctors—but also include the bulk of the physicians who will be needed at the hospitals. Finally there is the problem of unifying and coordinating the efforts and the problem of equipment and supplies.

The work of the Medical Preparedness Committee was therefore directed first of all against two fronts: First, to make certain that all the hospitals would have sufficient medical personnel to handle the maximum number of patients their physical facilities would permit; second, to make certain that every section of the county would have adequate medical service immediately available regardless of the number of physicians actually residing within the area.

Doctors Assigned to Hospitals

Several months ago the Committee on Hospital and Clinic Relations began preparing a list of physicians needed at each of the several hospitals in the event of emergency and making definite assignments to a particular hospital in cases where the physician had staff appointments at more than one institution. These assignments were made on the basis of lists submitted by the hospitals themselves and duplicate requests were straightened out by consultation with members of the hospital staff officially designated to represent the institution on our Hospital Committee.

Medical Districts

This important work had been completed before the attack on Pearl Harbor plunged the United States into war. The next step was to complete the division of the county into medical districts, 21 in number, with a medical director in charge of each, and to organize field casualty teams which could be sent at once into any affected area for work in the field. Only when all these groups were selected was it possible to consider the designation of men for duty at the first-aid stations of the local defense councils.

Many of the councils had proceeded to select physicians as requested by the County Council. In these cases every effort was made to approve their selections. Unfortunately, some of the councils had nominated men of vital importance in other fields of medical activity. In most cases these councils recognized the need for coordinated effort and immediately made another selection. It is hoped that within a few days all of the local councils will be organized and medical personnel assigned.

How the Plan Works

Briefly the procedure in the event of casualties is as follows: The local defense councils are being asked to equip and maintain an adequate number of first-aid posts under the direction of a physician. These local posts will render first aid only but will also be responsible for all movement of patients from the field into the first-aid station. If the physician in charge has more casualties than he can handle with his own resources, he will appeal for help to the medical director of his own district. If the situation is too serious for the medical director and his facilities, he will notify the Nassau County Control Center and help will be sent him.

Local areas should assemble first-aid supplies and equipment for their own first-aid posts; other supplies will be furnished them in emergencies by their district medical director with the help of the central authority. Each district director will utilize to the limit all local facilities including hospitals other than those designated as base hospitals, private sanatoriums, nursing homes, local nurses and first-aid workers and other volunteers, but no patient is to be evacuated out of the district except upon orders issued by the operating head of the health division of the county council.

Every Physician to Help

Eventually, all the doctors in Nassau County will be given an opportunity to participate in this voluntary patriotic effort. The Medical Directors of the 21 districts are now helping local defense councils select doctors for first-aid posts; they are selecting first-aid teams to be sent from place to place within their districts as the need may arise or to be "loaned" to other districts which might suffer serious damage; and finally, they are selecting physicians who will be asked to stand by at their own offices for emergency work or to be sent as reinforcements as they might be needed.

The medical directors of the districts will be responsible for all medical work within their territory and will report directly to the Operating Head of the Health Division of the Nassau County Defense Council, Dr. Earle G. Brown. Through Dr. Brown they will be able to secure help from the splendid preparations made by the American Red Cross, the local hospitals and the local branch of the New York State Nurses Association. Ambulances, first-aid equipment and supplies, nurses and lay workers will be available to be rushed into any corner of the county where the need arises, and through him also they will secure help for patients requiring hospital care. In order to promote efficiency, Dr. Brown will have constantly up to date a record of the available beds in each institution and will thus be able to decide where casualties shall be sent.

Organization of Nurses and Volunteers

The Nurses Association has completed an inventory of the nurses of the county, both active and retired, about 1,200 in number. From this list nurses will be selected for every phase of the work and their organization is completed along lines strictly parallel to the medical organization. The Red Cross is building up a group of emergency ambulances, mostly station wagons and

their volunteer drivers, and stores of first-aid equipment and supplies are being augmented daily; their first-aid courses are being given to large numbers. The druggists of the county are preparing emergency medical kits to be available in every local area. The Dental Society is organizing its members.

Cooperation with Defense Council

Every group and organization in the county is

at work under full steam and offering its services to the central authority of the Nassau County Defense Council.

The Medical Society, having finished its preliminary work, has now subordinated itself completely to orders from the Nassau County Defense Council and is working under its direction.

From now on, this is War and we recognize authority.

Medical and Surgical Relief Committee of America *Needs Your Help*

"We are now concentrating our efforts on aid to America in close cooperation with the United States Office of Civilian Defense. We have already provided a number of emergency medical field sets to defense officials in target areas throughout the country and plans are now under way to raise funds for the purchase of a sufficient number to meet nation-wide civilian needs."

MRS. ROGERS BALCOM,
Executive Chairman

An Emergency Medical Field Set consists of two portable cases equipped with instruments and supplies that can be readily carried by physicians, nurses, and nurses' aides from hospitals and casualty stations where they are consigned directly to the scene of disaster in emergencies.

Cost: \$110.00 including insurance and handling.

A name plate with the following inscription will be affixed to each set donated:

EMERGENCY MEDICAL FIELD SET
donated by
(name, city & state of individual or group)
to
THE MEDICAL AND SURGICAL RELIEF COMMITTEE
OF AMERICA
420 LEXINGTON AVENUE, NEW YORK, N. Y.
for
AID TO AMERICA

A PSYCHIATRIST LOOKS AT WAR

War is a disease of nations, a national psychosis that needs psychiatric care if the frightful scourge is to be eliminated.

Prevention of maladjustment in men and in nations must be achieved.

The cure is an international mental hygiene movement which brings the understanding of men to such a pitch that no warped and distorted person driven by unsatisfiable urges can victimize the normal and, through cheap tricks of mass

deception, so play on the weakness of the human personality that individually or in groups it can be led out to slaughter. A good psychiatrist in Vienna might have prevented Hitler, but it will take the organization of all educated people to so enlighten the world that war will not only be outlawed but its very roots—inferiority, sadism, and the love of killing—shall be so adjusted that they will cease to menace the people of the earth.—
David C. Wilson, M.D., in the Southern Med. J.



(Number three in a series of six)

Common problems in the management of peptic ulcer

"How can the ulcer patient be returned
to his job and kept there?"

Clinical evidence shows that a regimen of
Amphojel*—diet and rest results in more rapid
healing of peptic ulcer. Amphojel aids the ulcer
patient to lead a more normal life.

Four striking features of Amphojel, Wyeth's
Alumina Gel, are recognized by clinicians:

Amphojel provides prompt relief from pain. It
permits rapid healing of the ulcer. It cannot be
absorbed and eliminates the hazard of alkalosis.
It reduces excess acidity without completely
neutralizing the gastric contents.

Amphojel is a valuable adjunct in the treatment
of melena and hematemesis when administered by
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Amphojel, Wyeth's Alumina Gel
Fluid Antacid . . . Adsorbent

One or two teaspoonfuls either undiluted or
with a little water, to be taken five or six
times daily, between meals and on retiring.
Supplied in 12-ounce bottles

*For the Convenience of Ambulatory
Patients*

Wyeth's Hydrated Alumina Tablets
Antacid

One-half or one tablet in half a glass of
water. Repeat five or six times daily, between
meals and on retiring

Supplied in boxes of 60 tablets

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Say you saw it in the NEW YORK STATE JOURNAL OF MEDICINE

Medical News

Women's Medical Society of New York State Holds Midyear Meeting

THE Women's Medical Society held their mid-year meeting on January 24 and 25. Many of the 1,450 women physicians throughout the state attended the two-day session which opened on the morning of the twenty-fourth at the New York Infirmary for Women and Children, 325 East 15th Street, New York City.

After the Councillors' meeting and the regular business session, the following scientific program was heard: "Arterio-Sclerotic Peripheral Vascular Disease," Dr. Theresa McGovern, Post-Graduate Hospital, discussion by Dr. Alice Bernheim, of New York Hospital; "The Use of the Blood Sugar Curve as a Diagnostic Test in Patients Presenting Endocrinological Symp-

toms," Dr. Julia Lichtenstein, First Medical Division of New York Hospital, discussion by Dr. Gertrude Felshin.

Luncheon was at Luchow's—one of New York City's oldest and most famous restaurants. Dinner at Theresa Worthington Grant's was held in conjunction with the Women's Medical Society of New York City.

On Sunday afternoon the members attended the Philharmonic Symphony Concert.

Dr. Marguerite P. McCarthy is president and Dr. Isabelle F. Borden is secretary of the society.

Dr. Frances H. Bogatko was chairman of arrangements.

County News

Cayuga County

Dr. L. D. Burlington, of Aurora, was elected president of the county society at the annual dinner meeting held on December 18.

Other officers elected are: vice-president, Dr. D. D. Althouse, Auburn; secretary, Dr. Bernard L. Cullen, Auburn; treasurer, Dr. Leonard H. Rothschild, Auburn.

Dr. Harry S. Bull, Auburn, was elected delegate to the meeting of the New York State Society and Dr. H. I. Davenport, Auburn, alternate.

Dr. Wilfred Sefton, retiring president, presided and introduced Dean M. Lyle Spencer of the College of Journalism, Syracuse University.

"We Americans need to be reminded now and then that racially and culturally we are a nation of mongrels," Dean Spencer told the society in a talk entitled "America As I Know It."

"We are not a homogeneous people in the sense that the population of England, Italy, or Japan is. We are not British, Polish, German, or French. We are not predominantly Anglo-Saxon any more," Dean Spencer said. "Consequently we are not now, and never have been, a national unit. We have never been wholly integrated. . . ."

About seventy-five were present, including wives of the medical men.

Cortland County

At the annual meeting on December 19 the following officers were elected: president, Dr. Charles Osborne Mills; vice-president, Dr. Wm. Anthony Shay; secretary, Dr. Wm. Arthur Wall; and treasurer, Dr. Bert Ross Parsons—all of Cortland.

The president has appointed committees as follows: Legislation, Drs. Wm. Arthur Wall, James Walsh, and Stewart A. VerNooy, of Cortland; Compensation-Arbitration, Drs. Reuben Paul Higgins, Charles J. Kelley, and John E. Wattenberg, of Cortland; Economics, Drs. James Walsh, Wm. Anthony Shay, Anthony Vincent Runfola, of Cortland; Cancer Control, Drs. Robert H. Brink and Warren James Pashley, of Cortland, and Roger James Reid, of Truxton; Military Preparedness, Drs. Charles

J. Kelley, Wm. Anthony Shay, and Daniel Robert Reilly, of Cortland; Medical Care to the Indigent, Drs. Bert Ross Parsons, of Cortland, Wm. F. Newcomb, of Homer, and Louis John Iacovino, of Cortland; Public Health, Drs. Claude E. Chapin and Hugh Frail, of Cortland, Donald Briggs Glezen, of Cincinnati, and Wm. Eugene Mosher, Jr., and Roxie A. Weber, of Cortland.—*W. A. Wall, Secretary.*

Delaware County

At the annual meeting on December 16 the following officers were elected: president, Dr. Floyd Robert Bates, of Walton; vice-president, Dr. Fisk Brooks, of Delhi; secretary-treasurer, Dr. Elliott Danforth, of Sidney.—*O. Q. Flinl, Secretary.*

Dutchess County

At the regular meeting of the county society on January 14, held at Ryon Hall, Hudson River State Hospital, Poughkeepsie, Dr. Samuel J. Kopetzky, president of the State Society, spoke on "Physicians in National Defense."

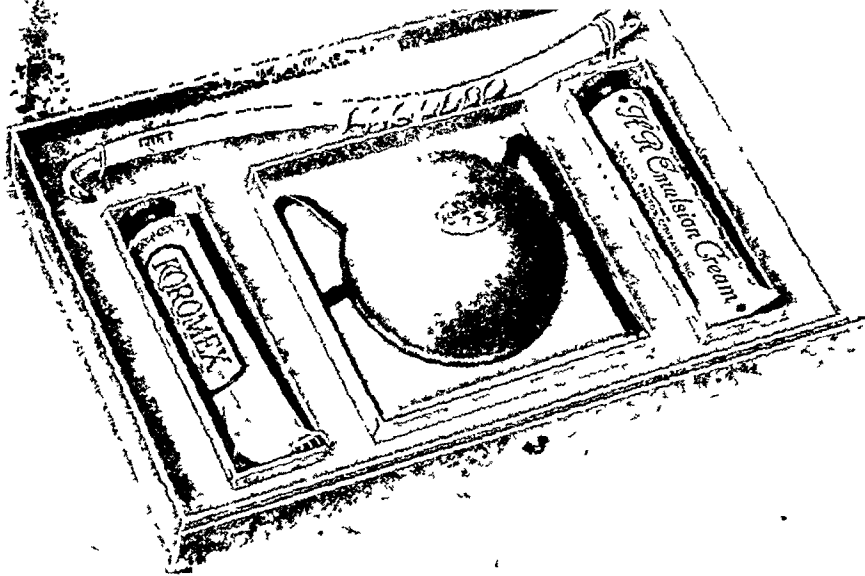
Erie County

During January the following speakers addressed the Buffalo Academy of Medicine: Dr. Louis C. Kress, of Albany, on "Every Day Cancer," January 7; Dr. Francis G. Blake, professor of medicine, Yale University, on "Treatment of Pneumonia," January 14; Dr. J. Bay Jacobs, of Washington, D. C., on "Management of Labor and Outcome in 800 Women with Borderline Pelves," on January 21.

Franklin County

On February 17 the third session of the course on sulfonamide therapy will be held at the Elks Club in Malone. Dinner at six-thirty will be followed by the program. The subject is "Treatment of Pneumonia and Meningitis." A panel discussion (internist, pediatrician, surgeon) will be held. Questions will be presented in writing either before or during the panel, which will be conducted by Dr. Robert H. E. Elliott, Jr.,

[Continued on page 274]



Presenting the "KOROMEX SET COMPLETE"

Koromex Set Complete* provides the long expressed need for a compact unit containing the three important items used for approved contraceptive technique. This attractive and strongly built case is identified by an easily removed label, convenient for dispensing or prescription purposes. To order or prescribe, merely write, "Koromex Set Complete. Diaphragm Size_____".

KOROMEX DIAPHRAGM—The outstanding, most durable diaphragm made. Backed by the most extensive record in clinical use ever attained by any diaphragm. In special sanitary pouch.

KOROMEX TRIP RELEASE INTRODUCER—The latest development in introducers. Swivel tip facilitates usage.

KOROMEX JELLY and H-R EMULSION CREAM—Both preparations have equally high spermicidal value, but differ greatly in the amount of lubrication afforded. A tube of each is here offered so the patient may determine for herself which type of preparation better meets her aesthetic requirements and her personal preferences.

* Price of the Koromex Set Complete is only that of the Koromex Diaphragm and the Koromex Trip Release Introducer.

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[Continued from page 272]

instructor in surgery, College of Physicians and Surgeons.

Preceding the panel discussion, Dr. J. Whittington Gorham, professor of medicine, Albany Medical College, will talk on "Treatment of Pneumonia" and Dr. Harry Bakwin, associate professor of pediatrics, New York University Medical College, will speak on "Treatment of Meningitis."

The course, arranged by the Council Committee on Public Health and Education of the State Society and the New York State Department of Health, held its first session on December 16 when Dr. K. Jefferson Thomson spoke on "Behavior of Sulfonamides in the Body and Principles for Their Use" and Dr. Eldridge H. Campbell spoke on "Local and Internal Use of Sulfonamides in Surgery."

The second session in January had as speakers Dr. William A. Brumfield, Jr., and Dr. R. Gordon Douglas. Their subjects were: "Treatment of Genitourinary Infections in the Male" and "Sulfonamides in Obstetrics and Gynecology."

Madison County

The following course on sulfonamide therapy, arranged by the Council Committee on Public Health and Education of the Medical Society of the State of New York and the New York State Department of Health, was given during January.

First session: "Behavior of Sulfonamides in the Body and Principles for Their Use," Dr. Alexander D. Langmuir; "Local and Internal Use of Sulfonamides in Surgery," Dr. Eldridge H. Campbell.

Second session: "Treatment of Genitourinary Infections in the Male," Dr. Allister M. McLellan; "Sulfonamides in Obstetrics and Gynecology," Dr. Edward C. Hughes.

Third session: "Treatment of Pneumonia," Dr. George M. Mackenzie; "Treatment of Meningitis," Dr. John A. Lichty, Jr.; Panel Discussion (internist, pediatrician, and surgeon), Dr. Frank Glenn.

Monroe County

Despite the war the county society has not shelved consideration of a nonprofit, medical expense indemnity insurance plan according to Dr. Edward T. Wentworth, chairman of a special committee that for more than a year has been weighing various aspects of the plan.

In the society's *Bulletin*, Dr. Wentworth said: "We have not given up the thought of the possibility of this insurance, but from our point of view this is a poor time to introduce such a plan. There is a good deal of skepticism concerning the salability of such policies. The people who need them most cannot afford to pay the premium."

"We have yet to hear of any community which has successfully run such a plan, but when we do we shall attempt to adapt it to the needs of this community and put it into effect here. We suggest that the committee be continued to serve as a reception center for any ideas that may be advanced on the subject."

Nassau County

For the series of lectures on war surgery and the county emergency setup see pages 251 and 268 of this issue.

A letter from the county society office concludes with this heartening paragraph:

"I think you will also be interested to know that as a result of our early preliminary work, going back over a period of one and a half years, the air-raid alarm of December 9 found our plans so well advanced that within fifteen minutes every hospital in the county had on hand ready for duty a larger staff of physicians than would have been needed had casualties resulted. These men were, of course, ready to be sent immediately to any affected area. Since that time our plans have been further refined so that it will not be necessary to tie up such a large number of doctors at the hospitals, but arrangements have been completed whereby the physicians will be available without delay in any section of the county where help might be needed including the manning of first-aid stations, field casualty units, and base hospitals."

Niagara County

The county society held its annual election of officers in the Niagara Falls Country Club, Lewiston Heights, on December 9. The following officers were elected: president, Dr. Forrest W. Barry, Lockport; vice-president, Dr. Harry C. Dumville, Niagara Falls; secretary, Dr. Charles M. Dake, Jr., Niagara Falls; treasurer, Dr. Dudley B. Fitz-Gerald; censors, Dr. R. R. B. Fitz Gerald, Lockport, Dr. Roy H. Wixson, Niagara Falls, and Dr. Theodore E. Mueller, North Tonawanda.

The following committee chairmen were also appointed: Legislation, Dr. E. M. G. Rieger, Niagara Falls; Public Health and Medical Education, Dr. John C. Kinzly, North Tonawanda; Economics and Public Relations, Dr. William A. Peart, Sanborn.

Delegates to the State Convention are: Dr. William A. Peart, Sanborn, and Dr. Guy S. Philbrick, Niagara Falls; Alternates, Dr. Raymond S. Barry, Niagara Falls, and Dr. Harley U. Cramer, Lockport.—*Charles M. Dake, Jr., M.D., Secretary.*

Onondaga County

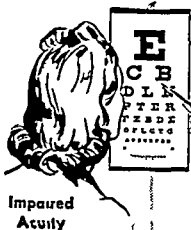
During January the society had a post-graduate course on sulfonamide therapy which was arranged by the Council Committee on Public Health and Education of the State Society and the New York State Department of Health.

On January 15 the speaker was Dr. George M. Mackenzie whose subject was "The Behavior of Sulfonamides in the Body and Principles for Their Use." Dr. Eldridge H. Campbell talked on "Local and Internal Use of Sulfonamides in Surgery."

At the second session Dr. R. R. Wolcott and Dr. Charles H. Peckham had as their subjects "Treatment of Genitourinary Infections in the Male" and "Sulfonamides in Obstetrics and Gynecology," respectively.

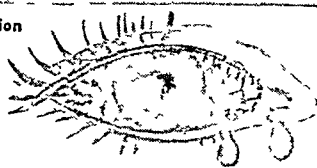
Dr. Harry Bakwin and Dr. Norman Plummer were the speakers for the session on January 29.

[Continued on page 276]



ARGYROL

Suffusion



Tampon Insertion



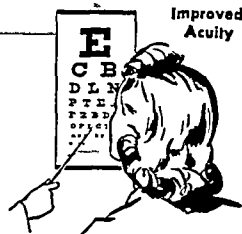
Decongestion



Tampon Removal



Improved Acuity



DECONGESTION WITHOUT VASOCONSTRICTION

Safe and Effective Mucous Membrane Therapy

● The ocular suffusion and decongestion incident to the Dowling tampon treatment indicate that ARGYROL'S action is physiological as well as chemical—that it marshals to its aid many of the natural defensive processes in combating infection.

The insertion of an ARGYROL tampon into the nose, often produces an intense injection and suffusion of the conjunctiva followed by decongestion. Indeed, ocular congestion present *before* the tampon insertion is frequently improved by this method, and visual acuity may be rendered more acute.

This then is evidence of ARGYROL'S ability to achieve decongestion not only of the nasal blood vessels, but of the entire head, *without resort to powerful vasoconstriction*. Add to this, ARGYROL'S freedom from irritating properties in any concentration from 1% to 50%, the fact it is non-injurious to the cilia, its ultra fine colloidal dispersion and highly active Brownian movement, its controlled pH and pAg, and its remarkable soothing properties, and you have a few of the reasons why ARGYROL is the overwhelming choice of specialists in treatment of mucous membrane infections.

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ANTISEPTIC EFFICIENCY PLUS

1. SOOTHING AND INFLAMMATION-DISPELLING PROPERTIES
2. NO CILIARY INJURY—NO TISSUE IRRITATION
3. NO SYSTEMIC TOXICITY
4. NO PULMONARY COMPLICATIONS
5. DECONGESTION WITHOUT VASOCONSTRICTION

SPECIFY THE ORIGINAL ARGYROL PACKAGE



[Continued from page 274]

Ontario County

The regular first quarterly meeting of the county society was held at the Canandaigua Hotel on January 13. A dinner followed the business meeting and later Dr. William G. Farlow, of Rochester, spoke on "Surgical Chest Problems Today."

Orange County

At the annual meeting held on December 9 the following officers were elected for 1942: president, Dr. George R. Dempsey, of Cornwall; vice-president, Dr. Earl R. Van Amburg, of Pine Bush; secretary-treasurer, Dr. Earl Charles Waterbury, of Newburgh.—*E. C. Waterbury, M.D., Secretary.*

On January 7 the Medical Board of the Cornwall Hospital began a series of postgraduate lectures. The lectures are being given each Wednesday evening for twelve weeks, ending April 1. The speakers are members of the teaching staff of the College of Physicians and Surgeons of Columbia University and the series is on the subject of "Diagnosis of Disease and Modern Therapy."

Orleans County

The annual meeting and election of officers were held at the Town Club in Albion on December 18. The officers re-elected were: president, Dr. Julius J. Layer, Lyndonville; vice-president, Dr. James Arthur Elson, Albion; secretary, Dr. Ellen Mary Nicholson, Albion; treasurer, Dr. Edward T. Eggert, Knowlesville; delegate, Dr. John Dugan, Albion; alternate, Dr. Howard Robert Lawrence, Medina; censors, Dr. Ralph Earle Brodie and Dr. John Dugan, Albion, and Dr. Charles Eugene Padelford, Holley.

A letter was read by the chairman of the special advisory committee from the newly elected commissioner of welfare expressing his sincere desire to cooperate with the physicians of the county in all ways and to settle, satisfactorily to both parties concerned, any differences of point of view or opinion which might arise.

This special advisory committee of the county society was empowered to present the names of three physicians to the commissioner of welfare, one of whom the latter would appoint as medical consultant to his department.

Dr. Nelson Russell, of Buffalo, later addressed the society on "Rheumatic Heart Disease."

Following the meeting, a dinner was held at the Town Club.—*Ellen M. Nicholson, Secretary.*

Oswego County

Dr. John F. Burden has been elected president of the county society. Dr. Emerson J. Dillon, Phoenix, was named vice-president and Dr. Francis Lee, Oswego, secretary and treasurer.

Otsego County

The following officers were elected on December 10 at the annual meeting: president, Frederick Baker Devitt, of Oneonta; vice-president, John Wayne Latcher, of Oneonta; secretary, Marjorie F. Murray, of Cooperstown; treasurer, Paul von Haeseler, of Gilbertsville; censor, Earle C. Winsor, of Schenectady; delegate to the

State Convention, James Greenough, of Oneonta; alternate delegate, Alexander F. Carson, of Oneonta.—*Marjorie F. Murray, M.D., Secretary.*

Rensselaer County

At the annual meeting on December 9 the following officers were elected: president, Dr. John Oswald Sibbald, Troy; vice-president, Dr. Alson Joye Hull, Troy; secretary, Dr. Elizabeth Palmer, Troy; treasurer, Dr. Francis James Fagan, Troy; censors, Dr. William Trotter, Troy, and Dr. Charles Henry Sproat, Valley Falls; delegates, Dr. Stephen Horace Curtis and Dr. John D. Carroll, Troy; alternates, Dr. Clement Joseph Handron and Dr. George Francis Reed, Troy.—*Elizabeth Palmer, Secretary.*

Dr. Eugene F. Connally, a major in the first World War who saw services on the Mexican border and in France, has been appointed to take charge of the First-Aid Detachments of Rensselaer County Chapter, Red Cross.

Saratoga County

At the meeting on January 15, held at the Saratoga Hospital, the topic was "Defense." Dr. John T. Geiger, assistant medical director of the Metropolitan Life Insurance Company, was the speaker.

Schenectady County

At the meeting on January 6, held in the Ellis Hospital Nurses Home Auditorium in Schenectady, the speaker was Dr. Merrill C. Sosman, professor of x-ray at Harvard Medical School and a member of the Department of Roentgenology of the Peter Bent Brigham Hospital, Boston. His subject was "A Trip Through the Alimentary Canal with the Roentgenologist."

St. Lawrence County

The last of three sessions on sulfonamide therapy, arranged by the Council Committee on Public Health and Education of the State Society and the New York State Department of Health, will be given in Ogdensburg on February 5.

Luncheon at the Hepburn Hospital will be followed by this program: (1) "Treatment of Pneumonia," Dr. George V. Taplin, instructor in medicine, University of Rochester School of Medicine and Dentistry; (2) "Treatment of Meningitis," Dr. A. Wilmot Jacobsen, associate professor and chairman of the Department of Pediatrics, Buffalo University, School of Medicine; (3) Panel Discussion (internist, pediatrician, and surgeon), Dr. G. Stuart Welch, instructor in anatomy and surgery, Albany Medical College.

At the first session of the course on January 8, Dr. K. Jefferson Thomson spoke on "The Behavior of Sulfonamides in the Body and Principles for Their Use." Dr. Leon E. Sutton had as his subject "Local and Internal Use of Sulfonamides in Surgery."

On January 22 the second session was held. Dr. Thomas F. Laurie lectured on "Treatment of Genitourinary Infections in the Male" and Dr. James Lamont Crossley talked on "Sulfonamides in Obstetrics and Gynecology."

Washington County

The quarterly meeting of the society was held

[Continued on page 278]

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[Continued from page 276]

on January 13 at the Health Center in Whitehall. Dr. K. Jefferson Thomson, associate physician of the Metropolitan Life Insurance Company Sanitorium, Mount McGregor, addressed the meeting on "The Diagnosis and Treatment of Heart Disease in Pregnant Women."

Westchester County

At the regular meeting held January 20 at the New York Hospital, Westchester Division, White Plains, Dr. Max A. Goldzieher, of Brooklyn, spoke on "Diagnosis and Treatment of Pituitary Disease." Dr. Goldzieher was formerly professor of pathology at the Royal Hungarian University in Budapest. At present he is endocrinologist at the Gouverneur and Brooklyn Woman's hospitals.

The regular meeting of the county society in February will be held on Tuesday evening, February 17. This will be a combined meeting with the Westchester Society of Gastroenterol-

ogy. The guest speaker will be Dr. I. S. Ravdin of Philadelphia, whose topic will be "Nutritional Aspects of Surgical Patients." Ravdin is the Harrison Professor of Surgery at the School of Medicine, University of Pennsylvania, and Director of the Harrison Department of Surgical Research at the same school. He also serves as attending surgeon at the hospital of the University of Pennsylvania. Ravdin's paper was presented recently at a meeting of the College of Surgeons at Boston.

Yates County

Two Dundee pastors, Rev. Harvey R. K. and Rev. Floyd Guiles, have been appointed to the county society, through their representatives Dr. J. P. MacDowell, to set up two community first-aid centers; one at the Methodist Parsonage and the other at the Dundee Baptist Church. These centers will minister to the needs of air-raid victims or refugees from the surrounding community.

Deaths of New York State Physicians

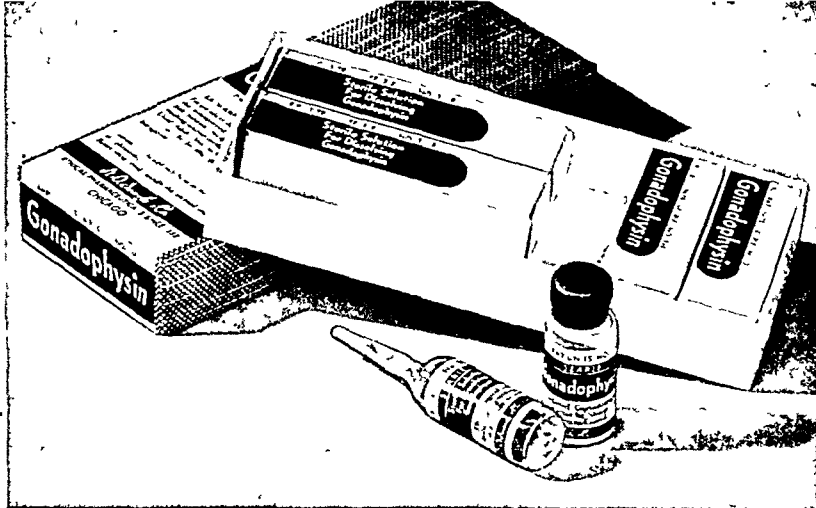
Name	Age	Medical School	Date of Death	Residence
Bodog F. Beck	72	Budapest	January 1	Manhattan
Frances J. Cahill	62	Cornell	January 6	Hoosick Falls
Henry A. Cassebeer	67	P. & S. N. Y.	December 29	Manhattan
Harry E. Cook	65	Syracuse	January 10	Manhattan
Charles T. Fowler	58	Syracuse	December 29	Dexter
William B. Gibson	85	McGill	December 30	Huntington
Henry J. Hunter	73	Baltimore	January 2	Ilion
Frederick E. McCarty	48	Buffalo	January 10	Wellsville
S. Arthur Morris	51	P. & S. N. Y.	January 5	Manhattan
Arminius Neulaender	68	Budapest	November 21	Brooklyn
Louis F. O'Neill	66	Albany	January 5	Auburn
Julius E. Salsbury	86	Ecl. Cinn.	December 30	Cazenovia
Fuad I. Shatara	48	P. & S. N. Y.	January 8	Manhattan and Brook
George A. Smith	84	Bellevue	January 6	Garden City
William G. Stedman	82	Buffalo	January 8	Rochester

Has the number of annual births in the United States passed its peak? Probably. It is estimated that in 1921 there were more than 2,600,000 births in the United States. This was the year in which the postwar boom in the birth rate occurred. After that there was an almost continuous decline to the year 1933, when the number of births was 2,081,232, the lowest figure since the peak year, 1921. After that, the number moved somewhat irregularly up and down with, on the whole, an upward tendency, leading to the 1940 figure of 2,353,988, the highest since 1928. It remains to be seen whether the upward movement will continue to a new all-time high. This would require an increase of about one quarter of a million over last year's figure to match the number of births estimated for 1921.

—Statistical Bulletin, Metropolitan Life Insurance Company

Has the annual number of deaths in the United States passed its peak? We have every reason to hope that for many years to come the excessively high figure for 1918 will not be reached again. In that influenza year the total number of deaths was nearly 1,875,000. In recent years the figure has been of the order of 1,400,000, year 1940 being slightly in excess of 1939 and 1938. The lowest total of annual deaths since 1918 was experienced in 1921, namely 1,250,000—incidentally, in the same year that saw our all-time highest total of annual births. The growth of our population, with an increasing proportion of older persons, will in all probability eventually cause a rise in the total annual deaths beyond the figure for 1918, in spite of our generally improved health conditions.

—Statistical Bulletin, Metropolitan Life Insurance Company



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Hospital News

Psychotherapy in the Hospital

MARBLE columns, polished floors, and shiny furniture may make little or no impression on the patient entering a hospital, but he does remember the kind and sympathetic person whom he first sees. That initial impressions are of incalculable aid or detriment is not debatable, for the feeling incurred in a patient within the first hour of his hospital stay often creates his state of mind for many days to come. And no physician today belittles the importance of a patient's mental attitude.

On the subject of psychotherapy in the hospital Dr. Joseph C. Doane, writing in *Modern Hospital*, has this to say: "Most hospital workers do not fully appreciate the profound effect upon the physical welfare of the sick man or woman made by the impressions that they receive through their special senses. . . . every sight, sound, smell, and spoken word to which the hospital patient is exposed causes a reaction in his nervous system as definite as that of the sensitive plant to the touch of the hand. Every contact with each employee produces a physiochemical emotional reaction expressed in terms of confidence, distrust, respect, fear, or desire to cooperate or combat.

"The greatest possibilities lie in educating all members of the institution's personnel to a proper understanding of the psychology of the patient and his relatives. He who understands the workings of the mind of the sick man has gone a long way toward becoming an efficient hospital servant. . . .

"There are only a few drugs that are wholly specific for any disease, but every patient responds in some degree to good psychotherapy. . . . Just as no doctor can be classed as being highly skilled who does not practice psychotherapy effectively in his day's work, so no hospital can render its best service unless it insists on protecting the nervous systems of its patients."

The author says that discussing the prognosis and progress of disease or describing operative or postmortem findings of other patients in the presence of a sick man is little less than mental cruelty. He lists other barbarous practices such as carrying on painful dressings within the hearing of patients; allowing weeping relatives of a dying patient to be in the plain view and hearing of those who are ill; being inconsiderate of the patient who has had a spinal anesthesia by making unnecessary noise in the operating room.

Dr. Doane concludes that the only remedy is to choose hospital workers for their culture and fineness of psychic and ethical fiber . . . and to weed out the crude and the thoughtless.

General Hospitals Again Urged to Establish Emergency Field Units

THE war in which we are engaged has, more than any war in the history of the world, brought injury and death to the civilian population. In order that the people of the United

States may be protected as far as possible against dangers of enemy action, the Office of Civilian Defense again urges all general hospitals to establish emergency medical field units in accordance with plans outlined in Medical Division *Bulletins 1 and 2*. These bulletins are available for distribution through state defense councils and regional offices of civilian defense.

"Equipment for the field units should be assembled immediately by hospitals from their own reserves, and their field units should be drilled weekly. Where necessary, reserve field units also should be organized with medical, nursing, and trained volunteer personnel derived from the community to supplement regular field units."

GEORGE BAEHR, M.D.,
Chief Medical Officer,
Office of Civilian Defense

Newsy Notes

The entire staff of New Rochelle Hospital, including approximately 500 doctors, nurses, office workers, and all hired help, will be photographed, fingerprinted, and sworn to oaths of allegiance as part of New Rochelle's defense effort.

The step is taken, Superintendent Austin J. Shoneke said, to prevent any possible employment of "fifth columnists" at the hospital and to aid in organizing the hospital into a complete defense unit.

. . . .

Dr. Arthur E. Soper, of Brentwood, has been named superintendent of the Kings Park State Hospital. The appointment became effective January 15, according to an announcement by the New York State Department of Mental Hygiene. Dr. Soper has been first assistant on the staff of the Pilgrim State Hospital since April, 1932.

. . . .

Thomas S. McLane, president of the board of trustees of Roosevelt Hospital, has made public a letter from President Franklin D. Roosevelt congratulating the hospital on the completion of its \$1,000,000 building at 428 West Fifty-ninth Street. The President's letter follows:

"I am glad to know that the Roosevelt Hospital will increase its facilities by opening a new building on January 8. As I cannot be present in person, I am glad to offer a word of congratulation and greeting to all those friends and supporters whose labors are thus brought to a happy completion.

"The Roosevelt Hospital has rendered splendid service to the community since its establishment, and with enlarged quarters I trust it will be able to extend its ministrations to an ever increasing clientele.

[Continued on page 282]



SELECTIVE CHEMO THERAPY

For antibacterial chemotherapy there are available a number of related compounds. All have proved highly useful though they differ somewhat in their selective action against the various pathogenic organisms.

Neoprontosil is especially effective against hemolytic streptococci and is of particular value in many infections which are encountered commonly in everyday practice.

Because of its bactericidal action against the invaders of the urinary tract Neoprontosil is efficacious in infections caused by colon, aerogenes and dysentery bacilli and hemolytic streptococci.

Neoprontosil is also employed in some conditions requiring prolonged treatment, particularly ulcerative colitis, because of its relatively lower toxicity.

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WINDSOR, ONT.

[Continued from page 280]

"My best wishes for the continued success of this noble work.

"Very sincerely yours,
FRANKLIN D. ROOSEVELT"

Dr. Joseph B. Boland, of Troy, has been appointed director of a newly established Tumor Clinic at Mercy Hospital, Buffalo. Dr. Boland assumed his new duties January 1.

For the past six months Dr. Boland has been directing the Pathology Laboratory at Mercy Hospital and has been doing research work in association with the New York State Cancer Institute at Buffalo.

Dr. David Edwards, of East Hampton, was elected president of the Medical Board at Southampton Hospital to succeed the late Dr. Joseph S. Wheelwright at a meeting of that board held recently at Southampton.

The staff of the Veterans' Hospital [Canandaigua] is trained and organized to render aid to the city at large in the event of a gas attack, Dr. Hans Hansen, manager, recently revealed at a meeting where he discussed various phases of chemical warfare.

Doctors, nurses, and attendants, trained in their respective specialties, are in readiness should Canandaigua fall victim to enemy gas bombing, he said, as he pointed out that citizens at large should know something of gas to eliminate mystery and worry and should know what to do in that emergency. Dr. Hansen had considerable experience during the World War in chemical warfare, and his review is timely and educational.

The Mt. Morris Tuberculosis Hospital School, commonly known as Murray Hill School, is the only hospital in the state which provides patients an opportunity to get a complete high school education, leading to graduation within the institution. Last June it graduated 11 students and looks forward to a commencement group of 23 for June, 1942.

The school was begun in October, 1939, at the direction of Dr. N. Stanley Lincoln, superintendent of the hospital that serves Livingston, Steuben, Wyoming, Ontario, Allegany, Genesee, and Orleans counties in western New York. The school program is under the direction of James P. Morris, Hornell. He has had the aid of teachers, who are patients, together with excellent cooperation of thirty-five high schools and the State Department of Education at Albany.

Ten physicians of the junior and senior staffs of St. Joseph's Hospital in Elmira have adopted a schedule under which they take turns sleeping in at the hospital to relieve the institution's lone intern and provide "safe coverage."

"Information Please" is the name of a booklet for patients of United Hospital in Port Chester. It tells briefly the story of the workings of the hospital, together with rules and rates, explaining the reason why a public hospital can seldom meet its expenses out of the fees paid by the patients. It is a well-planned booklet and should help greatly in gaining the cooperation of the patient.

According to the New York *Herald Tribune*, January 15, Dr. Willard C. Rappleye, Commissioner of Hospitals in New York, has disclosed that city-supported hospitals expect 150 of their 858 interns to be called between now and July.

The Rochester Hospital Council has announced an increase of approximately 10 per cent in private and semiprivate room rates for the hospitals in that locality.

At the same time, Wilbur G. Woodams, the council's managing director, said the Rochester Hospital Service Corporation and other insurance groups will be asked to grant corresponding increases in contributions under their contracts.

The Clinical Society of the Beth-El Hospital, Brooklyn, announces the first lecture of the Maimonides Series, "Clinical Significance of the Adrenal Glands," by Dr. Julius M. Rogoff, professor of endocrinology, University of Pittsburgh School of Medicine, on February 26 at 9:00 p.m.

"While New York State has only 10 per cent of the entire population of the United States, it has 15.4 per cent or 46,332 out of a total of 300,000 actively practicing registered nurses in the country," according to the monthly report of the Department of Health on defense activities.

"About 16,000 registered nurse licenses had been issued in the state prior to 1918. A total of 97,000 such licenses have been issued to date. Of the students graduating each year from recognized schools of nursing, 10.4 per cent are from New York State.

"On Armistice Day in 1918 there were 25,999 nurses in active military service. From these figures it would seem evident that New York has a large reserve of nursing power. Some of the factors relating to the 'shortage of nurses' are concerned with the problems of distribution and willingness of nurses to accept positions in the places where there is need." — *Defense Digest*

The American Nurses' Association reported last month that nursing schools throughout the United States have admitted 42,000 new students in the last five months. The goal of 50,000 new student nurses set last summer by Dr. Thomas Parran will probably be met by spring.

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Woman's Auxiliary

To the Medical Society of the State of New York

THE executive board meeting will be held in Albany at the De Witt Clinton Hotel on February 16 and 17. Following the dinner at the hotel on Monday evening there will be a visit to the legislature. On Tuesday at 9:30 A.M. the Executive Board will meet. They will recess at 12 o'clock for luncheon and resume at 1:30 o'clock. Let us make this a 100 per cent attendance. Keep the Convention dates in mind—April 27, 28, 29, and 30, 1942.

County News

Albany. The project for the year will be to present two Gatch beds to the Hospital for Incurables at Kenwood Heights.

Fulton. Donations were made for three worthy causes: \$5.00 to the Fulton County Health Society for Christmas seals, \$15 to the Red Cross Emergency Fund, and \$5.00 for the Fulton County Children's Committee's Christmas Fund. A resolution was adopted offering the services of the entire group to the Defense Council.

Nassau. A combined medical society and auxiliary meeting will be held on February 24 at the Cathedral House at 9:00 P.M. The speaker is to be Dr. Richard Brickner.

Onondaga. Fifty members were present at

the last meeting and heard Mrs. Ramona Baxter Bowden review several current New York plays. Mrs. Joseph R. Wiseman and Mrs. H. O. Brust presided at the tea table.

Queens. The last meeting of the auxiliary was held in the Medical Society building, with Mrs. William Godfrey presiding. The new members of the board were introduced. Three thousand hours of Red Cross work were credited to the auxiliary; a Red Cross Unit will be formed in February. Starting on February 10 a series of bridge parties will be held on the second Tuesday of each month.

Rensselaer. Congratulations to the newly elected president, Mrs. Eugene F. Connally.

Suffolk. The press and publicity chairman reports that a joint dinner was held with the doctors, the county being hostess to the other counties. Dr. Samuel J. Kopetzky, president of the New York State Medical Society; Dr. Joseph S. Lawrence, executive officer of the State Society; Dr. Luvia M. Willard, chairman of the American Woman's Hospital Reserve Corps, Jamaica, New York; and Mrs. George B. Adams, our own president of the New York State Woman's Auxiliary, were speakers at this meeting.

FARM AND HOME WEEK—CORNELL UNIVERSITY

Farm and Home Week will be observed at the College of Home Economics, Cornell University, Ithaca, February 9 to 13. The State Department of Health has been invited to participate and through its Division of Public Health Education has arranged the following program:

Tuesday, February 10, 10:00 A.M.—The Chairman is Dr. Dean Franklin Smiley, medical advisor, Cornell University. A symposium, "How Can We Make the Most of the School Examination?" will be given by Dr. J. G. Fred Hiss, Medical Society of the State of New York; Marie E. Swanson, R.N., supervisor of school nurses, State Education Department; and Dr. Robert Broad, health officer and school physician, Ithaca.

3:00 P.M.—"Diseases and Disease Conditions Caused by Poor Diets," by Dr. Raymond D. Fear, district health officer, Ithaca.

Wednesday, February 11, 10:00 A.M.—"The Nation's Treasure," by Dr. Elizabeth M. Gardiner, director, Division of Maternity, Infancy and Child Hygiene, State Department of Health.

11:00 A.M.—"What Is Wrong With Your Teeth?" by Dr. A. B. Dusenberre, Ithaca.

Thursday, February 12, 9:00 A.M.—"Personal Adjustment in the Middle Years," by Dr. Helen D. Bull, professor of home economics, Cornell University.

11:00 A.M.—"How the Public Health Nurse Protects the Rural Home," by Mary E. Donnelly, R.N., district supervising nurse, Ithaca.

Friday, February 13, 11:00 A.M.—"Health of the Family on the Farm," by Assemblyman Lee B. Mailer, chairman, New York State Health Preparedness Commission, Albany.

12:00 M.—"Symptoms of Cancer," by Dr. Louis C. Kress, director, Division of Cancer Control, State Department of Health.

A health education center will be set up in Room 266 of the College of Home Economics. Materials for use in community health education programs will be shown and a daily consultation service will be offered.

A physician is an unfortunate gentleman who is every day called upon to perform a mir-

acle—namely, to reconcile intemperance with health. —Voltaire

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Editorial

We Are All in It Now

As this issue of the JOURNAL appears, the registration of all male citizens between the ages of 20 and 45 is taking place in the United States. This will affect even members of Local Draft Boards themselves who are under 45 years of age, as well as many thousands of physicians. All male physicians in this category are liable for military service and those who do not hold commissions are subject to induction under the Selective Service Act.

Every physician in this age group has been or will be asked to enroll with the Procurement and Assignment Service. He will thereby be certified for a position commensurate with his professional training and experience as requisitions are placed with the Procurement and Assignment Service by military and other governmental agencies requiring the assistance of those who must be dislocated for the duration of the national emergency. Civilian hospital staff services and civilian defense medical service will also be allocated among the medical profession from the P. and A. Service.

No other category of professional men to our knowledge has available the assistance which the Procurement and Assignment Service affords to medical men for the first time in this war. To facilitate the operation of the P. and A. Service, Dr. Arthur W. Booth, of Elmira, New

York, has been designated as chairman of the P. and A. Service for the Second Corps Area and Colonel Samuel J. Kopetzky, M.C., as chairman for the State of New York, with temporary headquarters in New York City at 292 Madison Avenue.

The Selective Service Law embraces a larger group than the one now registering—namely, those above the 45-year-old level. Under the law these will be required to register at a later date, be subject to the same rule as is now being applied to those below the 45-year-old level.

It may interest our members to know that the maximal age for an original appointment in the Army is 55 years. The maximal age for original appointment in the Naval Reserve is 50 years.

It must be obvious to all that the criteria for deferment from military service of physicians with dependents cannot be the same as for the layman of the same age having the same number of dependents. The doctor has the prospect of being a commissioned officer and his dependents can be supported on an officer's pay.

It must also be obvious from the above that only the physically disabled will be deferred. These, too, probably will be used by the government in other than military categories.

Yes, we are all in it now.

Advanced First Aid

In this issue of the JOURNAL will be found on page 355 special articles on emergency care of wounds, hemorrhage, and shock, transportation of fractures, abdominal injuries, head and chest wounds, and burns. In these days when nearly all physicians are instructing in first-aid classes or teaching advanced first aid, these articles by L. M. Thompson, M.D., Robert H. Kennedy, M.D., and Frederic W. Bancroft, M.D., delivered at The New York Academy of Medicine by arrangement with the Medical Society of the County of New York at the instigation of Dr. Condict W. Cutler, Jr., chief of Emergency Medical Service, Manhattan, should have great interest and instructional value.

The manner in which war is waged today is vastly different from that of previous wars. In the realization that our country has now embarked upon a vast program of offense and defense, the medical aspects of war assume an important place in the minds of civilian physicians who will be called upon to bear the brunt

of the work. We shall use every means available to keep the physicians of this state informed of current war medicine and surgery. In this war every one must serve in some capacity.

Information concerning chemical (gas) warfare does not seem to be available so far to the physicians of the state in compact form. We are therefore the more fortunate to be able to present in this issue on page 350, a condensed, but highly informative special article on this subject by Dr. W. J. McConnell, assistant medical director of the Industrial Hygiene Laboratory of the Metropolitan Life Insurance Company.

Doubtless, in time, the Office of Civilian Defense will distribute generally its booklet *Protection Against Gas*, prepared by the War Department in December, 1941. In the meantime, every physician in the state who keeps handy this issue of the JOURNAL will have available for his own information or for the instruction of others essential information on this subject.

Medical Licensure Examinations

On January 16, 1942, according to advices reaching us from Albany, the State Board of Regents ratified the action of the commissioner, Dr. Ernest E. Cole, who suspended a requirement relating to medical licensure examinations.

Apparently, Dr. J. Hillis Miller, "associate commissioner in charge of higher education, had suggested to Dr. Cole," according to the *Albany Times Union* of January 17, 1942, "the temporary abrogation" of the licensing rule to "make it possible for a number of individuals trained in medicine to become more readily available for defense activities with the armed forces, or among civilians."

The requirement relating to medical

licensure examinations which Dr. Cole suspended and which suspension the State Board of Regents ratified is apparently that one having reference to licensing examinations: special requirements, (a) Medicine,¹ approved December 20, 1935, and amended May 20, 1938, and January 19, 1940. The section provides in part that: "The examination shall be held three times each year at times and places that shall be determined by the Commissioner. Application shall be filed with the Department not less than fifteen days before the examination. The subjects of the examination shall be:

¹ Handbook No. 9, University of the State of New York, June, 1941, pp. 13-14.

Group 1—Anatomy; physiology; chemistry.

Group 2—Hygiene; surgery; obstetrics and gynecology; pathology; bacteriology; diagnosis.

"A candidate who fails in more than one subject in either group shall be re-examined in the entire group.

"A candidate may be conditioned in one subject of each group and may remove these conditions at any other subsequent examination. Any candidate who has written three examinations, except examinations for the removal of conditions, and who, after the third examination, *has failures in at least two subjects in either group, shall not be eligible for re-examination for a period of one year*"²

A correspondent, commenting upon this action of Commissioner Cole writes: ". . . . the Regents on last Friday suspended this requirement of waiting a year and will hereafter permit applicants to continue to repeat their attempts any time an examination is set until they finally pass. . . . It is really conceivable that those with little knowledge could prepare themselves in one or two subjects, enter an examination, pass those and fail all the others, and then for the next examination prepare themselves in one or two more subjects and thus, finally, achieve their goal In my opinion, this action very definitely lowers the standard of medical education. . . ."

Our correspondent's opinion is, of course, his own. The whole question of medical licensure in this state is naturally of vital importance to the entire profession. When changes in licensing provisions are made, it affects in one way or another every physician.

Dr. J. Hillis Miller at whose sugges-

tion, according to the *Albany Times Union*,³ the change was made is not a physician. He is an M.A., Ph.D., Litt. D.

Dr. Ernest E. Cole is not a physician. He is an LL.B., Pd.D., LL.D.

The Board of Regents which ratified the action of the Commissioner consists of twelve members of whom one only, Dr. Grant C. Madill, is a physician.

That the change in the requirements relating to medical licensure may have a profound effect upon the practice of medicine in the state is evident. That the change has been proposed, accomplished, and ratified by an official group comprising only one physician will raise the question in the mind of every physician whether the health interest of the public has been adequately considered. We note that Dr. Miller suggested the change to Dr. Cole on the ground that it would make it possible for a number of individuals trained in medicine to become more readily available for defense activities with the armed forces or among civilians.

Our interest naturally is not primarily with the "number of individuals" but concentrates on the phrase "trained in medicine." How *well trained in medicine* is this "number of individuals" for whom it becomes necessary to abrogate certain licensing provisions in order that they may enter into the practice of medicine and surgery in the State of New York?

Are we really so short of competently trained physicians, licensed in the usual manner, as to make this necessary? The medical profession is profoundly interested, being concerned with the quality, as well as the quantity, of medical service in the state.

² Italics ours—Editor.

³ *Albany Times Union*, Jan. 17, 1942.

Straight Thinking

In his inaugural address to the Medical Society of the County of New York, Dr. Maximilian Ramirez, on January 26, 1942, said, in part:

"The first matter I wish to discuss is the protection of our fellow doctors who have been or may be called to the colors. Many of them, especially the older men, in entering upon active duty with the armed forces of our country, will in their patriotism leave lucrative practices built up by years of constant service. They need to be protected lest the hard-won fruit of years be snatched from them in their absence by men who either do not share their patriotism or, being ineligible for active service and remaining at home, will proceed to plow in another's field and batten on what should be another's harvest. The solution of this problem is not easy. I ask that you give it careful thought so that we may promptly arrive at a satisfactory decision."

We feel that this matter is indeed one calling for serious and conscientious study. Particularly is this true in view of the fact that at this time men between 20 and 45 years of age are being called. The situation and problems of physicians in the age group 35 to 45 is particularly grave because of their usually heavy commitments with respect to real estate, insurance, and dependents. It is, we believe, a problem that each locality and each county society will have to consider and solve as best it can, locally. Certainly, as Dr. Ramirez remarks, it is a question now calling for prompt action.

"A word here about women physicians. They have attained an enviable and honored position in the medical profession and can make contributions of real value to our county society. In the last World War they did valiant work, and they are not wanting in our present crisis. It seems proper then to invite and encourage them to take a more active part in the affairs of their county society. Our women physicians have long complained, and with justice, of the segregation policy adopted against them, particularly by the hospitals. This would be a challenge in normal times but is an exacting challenge today. Every doctor, man or woman, will be needed in the hard days that lie ahead. Moreover, in the event

that the drain on hospitals becomes acute because of current military needs, hospitals would act wisely to rearrange their facilities so that women doctors can replace the men as interns and residents, and thus allow the hospitals to continue to adequately serve civilian medical needs. We must no longer make our women doctors feel that they are unwelcome intruders into the profession."

Many will have read the letter by Dr. Emily D. Barringer, president, American Medical Women's Association, which appeared in the January 15, 1942, issue of the JOURNAL. In it she asks why women physicians are ineligible to the Medical Reserve Corps, "at a time when there is an advertised shortage of physicians in the Medical Reserve Corps of between 1,000 and 2,000?"

Without entering into the merits of her argument, it would seem to us that the probable shortage in civilian physician personnel will be far greater than that of the Medical Reserve Corps and that, as Dr. Ramirez sensibly suggests, "every doctor, man or woman, will be needed in the hard days ahead." In his address before the New York County Medical Society, Mr. Paul V. McNutt, Federal Security Administrator, said: "The Procurement and Assignment Service has expressed the desirability of retaining in essential positions those physicians, dentists, and veterinarians over the age of 45, women physicians, and those under the age of 45 whose physical qualifications do not meet the standards for commission in the military services."

Hospitals would indeed do wisely we feel to rearrange their facilities so that women doctors can replace men as interns and residents; it seems merely logical.

Of South America and its physicians there is a most pertinent comment.

"May I ask you now to turn from internal and local problems to a rare opportunity which is at hand to encourage better relationship with our South American friends both medical and lay? This opportunity awaits all the United States, but particularly New York. I say New York in particular because

it is the largest and most thickly populated city in the country and should have the best hospital and teaching facilities to offer to our visitors from South America. . . . With all our hospitals, with all our teaching institutions, our postgraduate instruction is comparatively poorly organized, and the average doctor arriving in New York is often at an utter loss as to where to go or to whom to go for advice and instruction. He may enroll for a course at some hospital or other institution that advertises postgraduate courses. What then? He is often required to enlist for a time entirely too long for the average physician who does not want to go through his entire medical school training again. He wants merely to learn some of the things that we here in New York with our vast population and exceptional opportunities may know about, and may be able to give to him, so that he will return to South America with much additional up-to-date medical knowledge. Moreover, he is required to pay an extremely high fee, for we do not realize that the rate of exchange between this country and many of the South American countries is such that the fee which we charge for a six weeks' course may be more than is charged at their home for an entire four- or six-year course of instruction."

While this suggestion applies to the medical facilities of New York City principally, the matter is one which deserves immediate consideration in view of the diplomatic conference now being held in South America as a result of which

many countries there have severed relationships with Europe. We have a responsibility in this severance which goes beyond a mere Pan-American war alliance.

Finally, "We place ourselves, our medical knowledge, our experience, our skill, and all our resources at the disposal of our President, the Commander-in-Chief of our Armed Forces. In him we place our full trust; and it is for him, not for us, to decide when and how we shall serve. I would counsel strongly against all attempts to form small groups for various and sundry minor emergencies that fall within the framework of the one, great, all-out emergency. There are and will be inadequacies, gaps and shortages, but individual attempts to fill in such open spaces may in the long run seriously impede progress. Self must be inexorably subordinated to the whole and we must all be satisfied to sacrifice individual recognition and act as a united whole. We must guard against emotionalism and misguided individual enthusiasm.

"But while professing our complete patriotism, we bluntly caution the federal, state, and city governments and all privately sponsored movements that though they can count on every bit of assistance and cooperation from the medical profession that is required by our government during this grave emergency, we shall be quick to detect any attempt to saddle the profession with changes in our present form of practice under the pretext of national emergency."

Runyon on the Doctor

In the column conducted by Damon Runyon¹ entitled the "Brighter Side," there appears an opening sentence: "The next time you see your doctor, feel sorry for him. He is the most neglected of all citizens, though no one will deny that he is the most valuable." Mr. Runyon continues in his exposition of what is *not* done for the physician. The doctor is the one individual whose services are available at all times regardless of economic sacrifice. With regard to his future, there is no provision made for him or his family in the program of Social Security.

What is ordinarily considered by the laity

as Organized Medicine in no way corresponds to unionization. Banded together as doctors are to protect the welfare of the public against exploitation and charlatanism, they would vote unanimously against any "strike" even though it might affect their economic well-being.

We cannot improve upon Runyon's comments. "We can just imagine the stir an organization of that nature would create throughout the land. There would be a great outcry, indeed, if the doctors decided they needed a union to better the conditions of their profession, say with reference to hours and compensation and pensions and working conditions in hospitals and elsewhere

¹ Runyon, D.: *Daily Mirror*, October 13, 1941.

and to regulate the amount of service they render the public free of charge and to bring about a little more promptness in the settlement of bills among patients able to pay. It would be quite a spectacle to see a committee of distinguished union doctors picketing the premises of some notorious nonpayer of medical fees."

The doctor, a member of Organized Medi-

cine, seeks no security through his membership. It seems silly, but his affiliation with Organized Medicine represents his desire to fulfill to the utmost his obligation to society. We earnestly hope that Damon Runyon represents the forerunner of the host of patients who vocally will support the continuation of the American system of medical practice.

Lest We Forget

The remarkable advance in the treatment of medical and surgical disease has exceeded all expectations of the medical profession. What has been accomplished in the short space of two decades has resulted in the further relief of suffering and the prolongation of life expectancy.

Chemotherapy, particularly the use of the sulfonamide products, has eradicated the threat of hitherto incapacitating and sometimes fatal disease. The complications of gonorrhea in the male have been reduced so materially by the use of this chemical that the crippling results of neisserian arthritis are becoming less and less evident. The meningitis following nasal and otitic infections, which were, in the past, attended with a mortality of almost 100 per cent, now no longer hold out a fatal prognosis.

Serum and vaccines, too, have been efficacious in the irradiation of diphtheria, tetanus,

and typhoid, and there is a promise that scarlet fever and pertussis may be eliminated by the use of these agents. Certainly in pertussis, the Sauer vaccine has proved its value in contracting the course of the disease and in the lessening of complications.

With this rapid advance in specific therapy it is too easy to overlook the importance of symptomatic treatment. Sedation is still important for the patient's comfort. The intrinsic role of the opiates seems to be lost to our novitiates in medicine. The cold pack, the ice cap to the head, and the hot-water bottle have been relegated to the nurse. We could go on enumerating many other therapeutic aids that are all too familiar to the so-called "horse and buggy" doctor. They still merit substance in the practice of medicine, and creditably so. Those of us who treated the wounded in World War I know how much was accomplished by giving a wounded soldier a cigarette.

Our Nurses

The demand for nurses in our defense program has caused both the Army and Navy to issue urgent appeals for enlistment in this branch of the Medical Corps. The young ladies are commissioned and hold rank equal to a second lieutenant, and when all expenses are deducted they are left with \$70 free and clear.

The pay for nurses, which can be considered as an average throughout the country, is \$80 a month and full keep for institutional work. Those who live outside of the nurses' home are given a few dollars more per month. The various positions now open for nurses in the industrial field have increased materially. Furthermore, their skilled training has enabled many of them to fill successfully factory and machine jobs that pay them comparatively high wages.

The scarcity of nurses for hospital work is now becoming an acute problem. The lure of higher paid jobs is depleting our wards of highly trained nursing aid. Replacement is not easy, and our married nurses are either not too willing or cannot assume obligations outside of their own households. They may (and they can always be depended upon) be induced to help out during a temporary shortage in the hospital that gave them their training. They will not, however, continue this indefinitely.

If we are to keep our nurses whom we have trained for special service in the community that the hospital serves, we must be prepared to meet financially all inducements that other fields offer. Our girls would much rather stay with us; they know us and like to work with us. But \$25 a month more on the pay

check is an almost insurmountable handicap. It is our opinion that some raise in pay, no matter how small, will keep our nurses happy

in the positions we have created for them. Hospitals, and physicians also, must give this problem serious consideration.

Correspondence

War and the Woman Physician

To the Editor:

Inasmuch as Dr. Emily D. Barringer has written a letter to the men physicians of New York State, which was published in your number of January 15, 1942, requesting them to write to the heads of the Military Services urging the appointment of women physicians to active service in the Army and Navy, I think we are entitled to ask the women physicians a few questions.

Are they aware that a considerable part of the duties of a Medical Officer in the Services consists in the inspection of the men for venereal disease and the treatment of such disease when discovered? Are they ambitious to assume this duty? And if so, do they imagine that the soldiers will enjoy their ministrations?

Or do they expect to be a privileged and more

or less ornamental part of the Army and Navy, protected and coddled, while the men physicians perform the hard and disagreeable jobs?

The mobility of the services personnel, and their at least theoretical ability to perform any duty to which they might be assigned, is an essential requirement, especially in time of actual warfare. Also the matter of accommodation in quarters would present some pretty problems.

We should appreciate an answer to some of the above suggested questions before we go all out for the appointment of women physicians to the Services.

Yours fraternally,

E. C. McCulloch, M.D.
Lt. Col., U. S. Army, M.C., Retired

January 23, 1942

To the Editor:

In answer to the letter of Lt. Col. E. C. McCulloch, U. S. Army, retired, I would say that I consider it of the utmost importance to get down to a discussion of any possible basic reasons why women physicians should not be eligible for the Medical Reserve Corps of the United States Army and Navy and he has frankly stated where he sees the greatest difficulty—namely, in connection with the venereal diseases.

Before answering this question I wish to draw attention to the fact that I am referring to the Medical Reserve Corps and not the Medical Corps.

Quoting from (35 Stat. 66) April 23, 1908: "An act to increase the efficiency of the Medical Department of the United States Army" it states "that for the purpose of securing a Reserve Corps of Medical Officers available for Military Service, the President of the United States is authorized," etc. This Medical Reserve Corps, as I understand it, is made up of physicians who in peace time do civilian practice, and after the National emergency return to civil practice. Furthermore, I understand that the Medical Reserve is divided into two classes. The Volunteer General Reserve Officers are doctors under 35 years of age who are eligible to perform all the general duties of the regular Medical Officers; doctors who have recently graduated may join this group with rank of Lieutenant. Then there are the Volunteer Specialist Reserve Officers who are under 50 years of age and who have Specialist rating. They are given rank up to Lieutenant Commander depending on their experience and age. The specialties represented

are Surgery, Orthopedics, Ophthalmology, Otolaryngology, Radiology, Internal Medicine, Neuropsychiatry, Urology, and Pathology.

This Nation is facing the most devastating war of its entire history. It has been widely advertised throughout the land that there is an acute shortage of doctors. Have we been misinformed on this point or is it so? Where and how can the patriotic woman physician give her best? The vast majority of women physicians will find themselves doing civilian practice or home defense work. But there are a goodly number who are eligible for the Medical Reserve Corps as to age and health, are unattached, and want to find themselves with proper military rating. Again the majority of these women applying would come in the specialists' group. Would this group of specialists be called upon to examine a lot of young fellows who may or may not have contracted venereal disease? And so, in answering Dr. McCulloch, I feel that the problem of venereal diseases does not affect so large a group as he implies and is probably confined to the Volunteer General Reserve Officers under 35 years.

I believe any young woman physician applying in this General Reserve Officer group should be well informed and skilled in genitourinary surgery and the diagnosis and treatment of venereal disease. Fortunately, this training is not hard to get these days when this nation-wide campaign against venereal disease has swept the country. While it is to be hoped that the Army and Navy will not unduly overrate the importance of venereal disease and offset the value of a woman physician in other fields, my answer is,

if she must treat venereal disease, let her go to it and take it in her stride.

As to the question, "do they imagine the soldiers will enjoy their ministrations?" I can answer how I believe they will react, based on my own personal experience. In 1902 I found myself in a unique position as being the first woman intern appointed on a general mixed service in a city hospital with a heavy ambulance service (Gouverneur Hospital, New York City). The majority of the patients were men from every walk of life—soldiers, sailors, longshoremen, hucksters, gangsters. I knew I should run into this very problem of genitourinary work and I was well prepared for it. Thanks to my professor of urology I had acquired more than usual skill in treating various types of cases. I learned one lesson early and that was that the physician who was most skillful was the one who was in greatest demand. During a two years' service (in which I progressed to House Surgeon) I ran the full gamut of genitourinary surgery and the venereal diseases, and I can truthfully say that never once in thousands of cases did I have any trouble with a male patient. They were at all times respectful and grateful for what I tried to do. I had no trouble with the orderlies or on the ambulance where I handled hundreds of cases. All this was possible because I was in a position of authority, with power to have my orders obeyed. I did, however, meet with great opposition on the part of some of my fellow staff mates. I wonder if history is going to repeat itself? All this happened forty years ago. Since then many other general hospitals have been opened to women physicians. The male venereal problem has been adjusted, in justice to everyone concerned.

The Army and Navy could also adjust this problem if they so willed.

It is just possible that a skillful and up-to-date woman physician might have a salutary effect on the young infected fellows in our camps and hospitals. Surely, at the present moment the Army and Navy are in no position with their rising venereal disease incidence rate to say that this would be impossible.

With regard to the women physicians expect-

ing to be "a privileged and more or less ornamental part of the Army or Navy," I can assure Colonel McCulloch that this taunting remark is quite unnecessary and entirely out of keeping with the American woman physician's feeling. She thinks in possibly the opposite direction and believes that the men physicians are leaving the women physicians to perform "the hard and disagreeable jobs" while they receive the military rating, better salaries, fuller protection. I believe Col. McCulloch will find that the woman physician is quite equal to her brother in hard work, endurance, and loyalty and, if circumstances are such that she must shift quickly from one type of work to another, she will be as able as he in making the change.

As to the question of accommodations for women physicians, this surely is one feature that can be corrected *now*, while these huge sums of money are being expended in building new hospitals and camps. Every such building should be planned to accommodate a mixed staff of officers.

And so I would say to Colonel McCulloch and his friends, we are in the midst of a terrible national emergency; remember that a skillful physician, man or woman, is not developed overnight. It takes long years of hard work, self-denial, and often hardship. If there is an outstanding woman surgeon who applies, take her. If another woman can do fine plastic surgery, take her. If another is an authority on contagion, take her. Don't lose the value of these experienced skillful women because some of the younger group may have to thrash out the venereal disease problem and incidentally may show us older folks newer and better ways to do it.

The women physicians want to truly work shoulder to shoulder with their brothers and have all sex discrimination put aside. We are all physicians together in this terrific struggle to help win this war. I appeal to Colonel McCulloch and his friends to help us. I shall be glad to answer any further questions that I can.

EMILY DUNNING BARRINGER, M.D., *President,*
American Medical Women's Association

It isn't too early....

....to make your reservations for the 1942 Annual Meeting: April 27-30, New York City. Headquarters will be at the Waldorf-Astoria Hotel. The program is one that you will *not* want to miss.

SURGICAL INTERRUPTION OF THE PALLIDOFUGAL FIBERS*

Its Effect on the Syndrome of Paralysis Agitans and Technical Considerations in Its Application

RUSSELL MEYERS, M.D., F.A.C.S., Brooklyn

IN HIS 1928 monograph on the complications and sequelae of encephalitis lethargica, von Economo⁵⁷ lamented the fact that the therapy of the chronic stage is the saddest chapter of epidemic encephalitis. In the decade that has passed since this was written, a wide variety of therapeutic agents, including pharmacologic, dietary, psychologic, and physical therapeutic measures, has been employed in the effort to deal with the distressing late manifestations of encephalitis.^{25b, 25c} Particular attention has been directed to the commonest and most disabling of these sequelae—namely, parkinsonism. Although some encouraging results have been reported following the use of certain new agents—e.g., cobra venom,^{12a} vitamin B₆,^{13a, 13b, 53} syntropan,⁴⁹ metrazol shock therapy,⁶² benzedrine sulfate,^{4, 9, 36, 41, 58a} and bulgarian belladonna root^{7, 8, 12b, 15, 27, 35a, 35b, 36, 38, 56a, 56b, 58b, 59}—and by the more intensive application of certain of the older agents—e.g., atropine^{1, 6}—the statement made by von Economo appears at present to be in no serious need of revision.

Under the best of circumstances these therapies are symptomatic rather than curative, and as such they require to be administered throughout the lifetime of the patient. Unfortunately, their effects on the disease process are unpredictable from patient to patient, and “relapses” frequently occur even in those patients initially considered to be improved.^{56a, 56b} Moreover, excepting vitamin B₆, the drugs referred to exert untoward side reactions. In view, therefore, of the necessity of sustained administration and high dosage, contraindications are numerous.^{33, 40, 51} Finally, the least conspicuous benefit is exerted by these agents on the very symptom that above all others is the one from which the parkinsonian patient seeks relief—namely, tremor.^{4, 7, 8, 12b, 27, 35a, 35b, 38, 41, 45, 56a, 56b}

By contrast with patients afflicted by many other chronic diseases of the brain, the sufferer from postencephalitic parkinsonism is characteristically relatively young and usually possessed of an intact intellect. This makes his plight the more distressing, for under the present limitations of therapy he is faced with a lifetime of serious physical, social, and economic incapacities. The psychologic reactions that commonly develop in relation to such a frustrating disease are as understandable as they are apparent.

The recognition of these facts and of the generally disappointing character of the more conservative modes of therapy has prompted recent efforts to deal with the problem by surgical means. Certain observations (not the least significant of which is that parkinsonian tremors and rigidity are regularly abolished in limbs paralyzed by virtue of a supervening cerebral apoplexy) appear to justify the conviction that there exist, in fact, discrete neural pathways that subtend the clinical manifestations of paralysis agitans. That these pathways constitute highly complex circuits running through essentially all levels of the nervous system can scarcely be doubted.^{31c} In view of these premises, the problem of surgical therapy in parkinsonism becomes, in essence, one of interrupting the postulated neural circuit at some convenient point. Ideally, this interruption should entail no damage to those structures upon the integrity of which motor, sensory, coordinative, and intellectual functions depend.

To devise a more specific surgical procedure on a rational basis is difficult for a number of reasons. A review of the physiologic, pathologic, and pathogenic considerations relevant to paralysis agitans makes it clearly evident how inadequate our comprehension of these important issues is. Here, as elsewhere in medicine, the coexistence of numerous rival hypotheses^{2, 11, 12, 14, 16a, 16b, 17, 19, 20, 22—24, 25—30, 32, 32, 39, 46, 47, 50, 52, 54, 55a, 55b, 60a, 60b, 61} is, in itself, an index of the grave deficiency of factual knowledge which at present obtains. A further difficulty in the resolution of the surgical problem is referable to our inability to reproduce in laboratory animals the clinically encountered syndrome of paralysis agitans.

Awarded the Lucien Howe Prize in Surgery at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 30, 1941.

From the Department of Physiology (Neurophysiology), Long Island College of Medicine, and the Neurosurgical Service of the Kings County Hospital.

* In the interest of space conservation for the purposes of publication the original article has been abstracted and 9 of the illustrations have been deleted.

The earliest surgical procedures employed against postencephalitic parkinsonism consisted of general measures directed against focal infection and orthopaedic measures for the correction of muscular contractions and bony displacements.^{25a, 25b} Occasional efforts have been made to alleviate the symptoms by altering the endocrine balance.³⁴ Peripheral neurectomy, sympathetic ramiectomy, and/or ganglionectomy, and dorsal rhizotomy are representative of the earlier surgical attacks on the nervous system itself. If one may judge from the recent literature, these "peripheral" procedures have been largely abandoned.

During the past ten years the attention of surgeons has been directed at the central nervous system. Puusepp^{43a, 43b} and Rizzatti and Moreno⁴⁵ reported their inability to influence favorably the tremors of parkinsonism by section of the dorsal columns. Putnam^{42a-d} employed anterolateral chordotomy in 5 successive cases of unilateral parkinsonian tremor and reported failure in each instance. The experiences of Foerster and Gagel⁴⁰ and of Oldberg³⁷ with this procedure were similar to that of Putnam. Mashanskiy,^{25c} however, reported 8 successes among 17 cases in which he employed Putnam's operation. The reason for the discrepancy in these results is not apparent from an examination of the original articles.

Putnam^{42b} obtained substantial relief in 7 cases of unilateral paralysis agitans by interruption of the homologous lateral pyramidal tract at the second cervical segment. It is worthy of note that the motor disability resulting from this operation is far less than would be expected to supervene if the functions traditionally imputed to the pyramidal tracts are validly posited.

The single recorded attempt to deal with the symptoms of parkinsonism by operation at the level of the cerebellomesencephalic complex is that of Delmas-Marsalet and van Bogaert.⁵ In their operation the dentate nucleus was surgically damaged. The rigidity factor was favorably influenced, but the tremors were severely intensified and, in addition, were complicated by the appearance of ceaseless torsion spasms.

Several authors have reported upon the results of cortical extirpation of portions of Brodmann's areas 4 and 6. Bucy and Case^{3a} obtained an enduring abolition of rhythmic movements in a patient suffering from a post-traumatic unilateral tremor. In a second case of unilateral parkinsonian-like tremors

of uncertain origin (possibly syphilitic), Bucy^{3b} recorded a similar success. The permanent residua of these operations have been reported as apraxia, a moderate degree of paresis, bradykinesia, and ataxia of the affected extremities. Putnam obtained considerable improvement in an instance of post-traumatic unilateral tremor by resection of a portion of the precentral gyrus.^{42c} The resulting motor disabilities (dyspraxia and paresis) were considered by this investigator to be greater than those resulting from his operation of interruption of the lateral pyramidal tract in the cervical cord. In 2 additional cases of unilateral paralysis agitans (more readily comparable with the postencephalitic type than his first case) Putnam was unable to alter appreciably the symptoms by resection of a portion of area 6. White^{42e} employed the same procedure in a single case and obtained only partial relief. Klemme appears to have had the widest experience with this operation. A number of highly favorable results has been indicated in brief preliminary reports by this worker,²¹ but the protocols of his cases of paralysis agitans have not been published in detail as yet so that a precise evaluation of the neurologic and psychologic sequelae of the operation in Klemme's hands cannot be made at this time.

In other reports the writer^{31a-c} described the effects on the several symptoms of parkinsonism produced by surgical procedures on the basal ganglia. In the first 4 cases the head of the caudate nucleus was extirpated, and certain of the extrapyramidal and corticopetal fibers coursing in or toward the anterior limb of the internal capsule were interrupted. Alternating tremors were favorably influenced in all of these cases,* but the symptoms consequent upon the factor of rigidity were benefited to a less appreciable degree. In the next 2 cases extirpation of the oral parts of the putamen and globus pallidus was carried out in addition to the procedures of ablation of the head of the caudate nucleus and section of the fibers in the oral three-fourths of the anterior limb of the internal capsule. The tremors were effectually abolished in both these patients, and the rigidity factor

* One of these 4 cases, after an initial improvement lasting three and one-half months, later had to be classed as a failure by virtue of a slow recurrence of his tremors. The patient was a chronic alcoholic who had, in addition to his parkinsonian-like symptoms, clinical evidences of cortical and cerebellar disease. There was no history suggestive of encephalitis. The experience provided by this case indicated the necessity of avoiding the selection of this type of patient in the future. Improvement in the other 3 cases has been sustained.

was markedly improved although not entirely eliminated. The first of the 2 latter cases was freed of a severe festination; the second, of a dragging limp of the right leg. This operation, however, was considered to carry undue risks from the standpoint of recovery of motor function, particularly since a number of small arteries of supply to the genu and posterior limb of the internal capsule traverse the bed of the putamen. It was therefore abandoned in the next 3 cases of the series in favor of an interruption of the pallidofugal fibers. This procedure, in the light of subsequent observations, appears to be the most effective of the several operations employed at the level of the basal ganglions. The alternating tremors were abolished or were rendered barely perceptible, and rigidity was effectually reduced with a consequent prompt improvement in the symptoms of akinesia, bradykinesia, flexor posture, dysarthria, and deficiency of automatic associated acts. Inasmuch as these effects have been described elsewhere in my protocols,^{3,10} no attempt will be made in the present communication to review them. It is to be indicated, however, that the operation of interruption of the pallidofugal fibers may be carried out without producing any clinically determinable impairment of sensory, motor, reflex, coordinative, eupractic, and intellectual functions. This is perhaps its chief virtue. Furthermore, it is a relatively simple technical procedure and is capable of fairly precise standardization by virtue of the clear-cut delineation of the anatomic landmarks involved. In this respect it enjoys a small advantage over the operation of cortical extirpation, since the latter entails the arduous task of identifying the excitable motor cortex by electrical stimulation, of estimating by gross inspection the extent of area 6, and of taking the irregularities of cortical circulation into consideration in planning the surgical resection. Finally, interruption of the pallidofugal fibers is almost as bloodless in the crucial maneuver as chordotomy and appears to be applicable to bilateral, as well as unilateral, cases of paralysis agitans.

My previous communications were addressed primarily to neurologists and neuropathologists, and for this reason a precise description of the surgical issues at hand was not included in the protocols of the cases. In view of this it is intended in the present paper to set forth in some detail the technical considerations relative to the procedure of

pallidofugal section. In addition to describing the operative technique, it appears desirable in this communication to consider the factors of significance in the selection of the patient for surgery and to indicate the more important procedures implicit in the clinical work-up of the surgical patient.

I. The Selection of the Patient for Surgery

The broad principles that guide the application of elective operative procedures in general are applicable here. In brief, the patient's physical condition must be such as to promise that he will withstand major cerebral surgery. The condition of the heart, lungs, liver, and kidneys and the general nutritive state of the patient require preoperative evaluation by the routine methods of examination and, where indicated, by special tests. Although chronologic age is of less consequence than physiologic age, it would rarely appear justifiable to employ an operation of so serious a nature in an individual beyond the age of 50 or 55 years.

In every instance the candidate for surgery should be subjected to a period of observation lasting several months, during which time the effects exerted on his various signs and symptoms by the standard conservative medical regimens may be precisely determined. Especially desirable are trial periods on the belladonna derivatives and vitamin B₆. Physical therapeutic measures should also be employed during the trial period either separately or in combination with the pharmacologic agents. Accurate clinical records, supplemented whenever possible by motion pictures, are indispensable to the proper objective evaluation of the subject's preoperative status and the results of operation.

The patient's disease process should have been present for a period of sufficient length so that its nature is capable of reasonably accurate determination from the clinical standpoint. The duration of the parkinsonian symptoms in the 9 patients of my series was as follows: Case 1, seven years; Case 2, one year; Case 3, eight years; Case 4, six years; Case 5, eighteen years; Case 6, five years; Case 7, ten years; Case 8, twenty years; and Case 9, eighteen years. It is of significance that the single failure in the series was that of Case 2, a patient for whom operation would probably have been considered inappropriate if his disease process had been evaluated as now recommended. In the last analysis it is the responsibility of the surgeon to identify and avoid operation for conditions

such as early progressive lenticular degeneration (Wilson's disease), atypical Huntington's chorea, Vogt's disease, and Strümpell-Westphal's disease, which for a part of their early course may simulate paralysis agitans. Patients who disclose a fair degree of stabilization of symptoms or in whom the progress of the disorder is relatively slow appear to be the more favorable surgical candidates. In any case, if clinical evidence of a widespread implication of the nervous system is at hand, operation should be withheld.

Certain considerations referable to the patient as a personality have seemed to me to be of more than passing significance. The facts relative to the operation having been made known, the procedure should be actively sought by the patient rather than urged upon him. Experience indicates that the more severely afflicted patients are usually attitudinally set to petition for any procedure that offers a reasonable promise of relieving them of their tremors and rigidity. The likelihood of a successful therapeutic outcome is not as yet bright enough to warrant strong recommendation for those who can carry on in spite of their affliction. The patient ought to be possessed of a cooperative temperament so that the surgical procedure may be carried out under local anesthesia, and his intellectual status should be effectually normal so that re-educative and rehabilitative measures that may be indicated after operation may be entered upon with a reasonable expectation of realization. Lastly, it should be established that the patient possesses a degree of social stability such as will make a proper follow-up feasible.

II. The Clinical Work-Up

It has been a matter of routine practice to record preoperatively a number of somatic and vegetative functions so as to cover the possibilities of their derangement by the operative procedure. The approach to the basal ganglions by way of the cortex of areas 6 and 8 and the close proximity of certain hypothalamic nuclei (and their related pathways) and of the optic tracts to the site at which the pallidofugal fibers are interrupted require that particular attention be given to the pre- and post-operative states of the functions imputed to these structures.

The clinical history is recorded in detail, and a careful physical and neurologic examination is carried out. The grips are measured by the dynamometer. The visual acuity of each eye is determined (with and with-

out lenses), and the visual fields are plotted by perimetry. The eupraxic functions in particular are precisely described and, whenever feasible, are recorded cinematographically. The standard test that I use for this purpose is that of clasping and unclasping a safety pin, each hand being used separately and unaided by its fellow. The level of the subject's intelligence quotient is determined by administering the 1937 Stanford Revision of the Binet-Simon test and the Bellevue Adult Scale. In special cases the Pinter-Patterson Performance Scale is utilized. The vegetative processes of the patient are examined by the following means: skin temperature readings of corresponding points of the body from right to left; records of the fluid intake and output for three days under conditions of a standard diet; determination of the basal metabolic rate (often difficult of accomplishment because of the tremors); routine urinalysis; estimation of the blood nonprotein nitrogen, creatinine, cholesterol, and urea and of the serum calcium, phosphorus, and phosphatase. The foregoing studies are repeated from time to time during the postoperative period. The red and white corpuscles are examined and the level of the hemoglobin is determined. The blood group is likewise determined preoperatively in anticipation of the need of transfusion at operation. A Wassermann test of the blood serum is made. Electroencephalographic and electromyographic tracings are recorded preoperatively and postoperatively. Pneumoencephalography is carried out mainly for the purpose of estimating the size and position of the ventricles but also to disclose the presence, if any, of a midline tumor. It is rare that the syndrome of paralysis agitans is associated with a cerebral tumor, yet my attention was recently called to the case of a middle-aged machinist who had been treated at reputable neurologic clinics over a period of ten years as an instance of progressive hemiparkinsonism. Death occurred suddenly, and a hitherto unsuspected oligodendroglioma of the septum pellucidum impinging upon both caudate nuclei was disclosed at necropsy.

The pressure of the cerebrospinal fluid is recorded as a preliminary to the procedure of pneumoencephalography, and a sufficient sample of the fluid is saved so as to provide for a cell count, a total protein determination, a Wassermann test, and a colloidal gold curve determination.

At operation it is desirable whenever feasible to record the cerebral electrical potentials

directly from the cortical surface. A method of carrying out this procedure has been reported in a previous communication.^{31d} After exposure of the caudate nucleus, the electrical potentials of this structure may be picked up by means of an ordinary coaxial electrode of the Adrian-Bronk type. It is to be conceded, of course, that the data obtained by electrophysiologic methods are at present of small practical value in these cases. Nevertheless, the acquisition of such information is desirable because of its possible future significance. Tracings thus far obtained and reported elsewhere^{31e} suggest that (1) the cerebral cortex of the premotor area is an integral part of the tremor-mediating mechanism, or at the least that the neural activity of the tremor-mediating mechanism is projected onto the cortex, and (2) that the caudate nucleus itself neither initiates nor mediates alternating tremors, although it may, when intact, facilitate their appearance.

III. Technical Considerations of the Operation of Interruption of the Pallidofugal Fibers

The patient is secured to the operating table in the usual manner and, the head end remaining the highest, the table is tilted at an angle of approximately 23 degrees. By this means the drainage of venous blood from the head is facilitated by gravity. An intravenous infusion of physiologic saline solution is introduced through a cannula tied into the great saphenous vein at the ankle. A competent observer posts himself under the operative drapes in order to report upon any alterations in the patient's clinical picture that result from the operative procedures.

The scalp is prepared in any suitable manner. Under local novocain anesthesia a small skin flap, the base of which measures approximately 6 cm., is outlined. The medial arm of the incision corresponds to the sagittal line and begins a short distance below the hairline. It courses directly backward for approximately 5 cm., then sweeps laterally and arches forward so as to correspond roughly to a projected line separating area 6a α from area 6a β . From here the incision runs along the upper temporofrontal region and terminates at the hairline. The lateral arm is approximately 1 cm. below the superior margin of the fan of the temporal muscle (Fig. 1). The scalp incision is carried down to the cranium. A bone flap measuring approximately 4.5 cm. on each side is reflected forward, retaining its attachment to the skin. Four burr holes

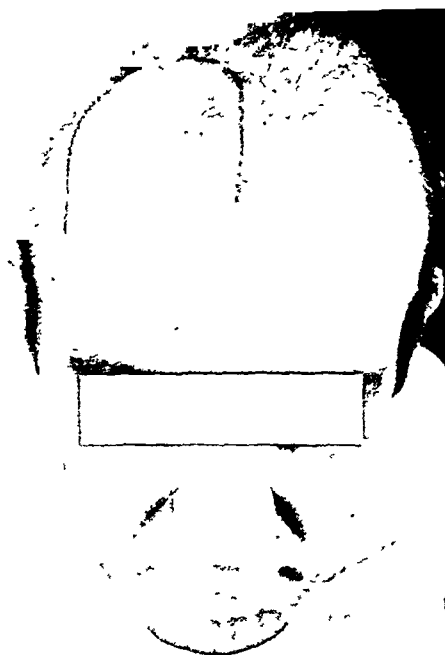


FIG. 1. Disposition of the operative incision employed in the approach to the basal ganglia (Case 8 during the fourth postoperative week). Before being photographed, the incisional scar was touched up with ink.



FIG. 2. Reflection of the dural flap toward the midline. The cranial defect is of small size, representing a 4.5-5 cm. square.



FIG. 3. Site of cortical incision. This photograph was made after the lateral ventricle was entered. The effect of retraction and of drawing off cerebrospinal fluid was to make the incision gape and thus to appear wider than is the actual case.

are required for this flap. It is recommended that the two medial burr openings be made just lateral to the superior longitudinal sinus.*

The dura mater is incised just within the bony margin, and the dural flap is reflected toward the midline, avoiding damage to the pachionian granulations and the large cortical veins emptying into the superior longitudinal sinus (Fig. 2). The cortical incision through which the lateral ventricle is to be approached is planned so as to lie parallel to, and approximately 2 cm. from, the midline. In length it need not be greater than 3.5 cm. Its midpoint is crossed by an imaginary line estimated to represent the border separating area 6a β from area 8 (Fig. 3). Variations in the distribution of cortical vessels are encountered from case to case, and for this reason it may become necessary on occasion to modify the described incision so as to avoid the ligation of large arteries or veins.

* This precaution is intended to avoid the bleeding sometimes encountered when the thin shell of bone at the base of the burr hole is lifted away from the roof of the sinus. If the latter difficulty does arise or if bleeding from a pachionian body presents, electrocoagulation should be avoided, since it more often than not aggravates the hemorrhage. Hemostasis under these conditions is more readily accomplished by the use of a stamp of muscle, by traction sutures anchored over the bone, or by a combination of both measures.

The cortical incision is now carried into the brain,* always running parallel to the plane of the falx and just lateral to the deep folds of the cortex of the mesial aspect of the brain. By this means, troublesome bleeding from vessels lying deep in the sulci may be avoided. Shortly before the ventricle is reached, the direction of the white fibers may be seen to change. This change signifies that the upper surface of the anterior portion of the body of the corpus callosum has been reached. Gentle traction by means of narrow "S" retractors



FIG. 4 The head of the caudate nucleus (arrow) is exposed by "S" retractors.

provides an adequate exposure of the deep lying hemispherical structures.

The ventricle is entered and the available cerebrospinal fluid is drained by aspiration. The posterior half of the head of the caudate nucleus (Fig. 4) and the antermost portion of the tail of this structure as it sweeps over the anterior and superior mesial aspects of the thalamus are all clearly visible on the lateral wall of the ventricle. These structures should be protected from the blade of the "S" retractor by means of cotton patties. The foramen of Monro transmitting the choroid plexus is now readily identifiable, and a small cotton patty attached to a long silk thread is

* In my experience the tip of a bayonet forceps has proved the most useful instrument for carrying the incision through the substance of the brain. A fine metal suction tip may also be employed.

laid over the opening in order to prevent the seepage of blood (if any) into the third ventricle. The fornix constitutes the anterior rim of the foramen of Monro. By means of a No. 10 (pointed) Bard-Parker scalpel a short incision measuring 3 to 4 mm. in length is made across the inferior posterolateral face of this structure. The incision is just large enough to admit the tip of an instrument devised for sectioning the fibers of the ansa lenticularis (Fig. 5). This instrument is introduced through the incision and is carried

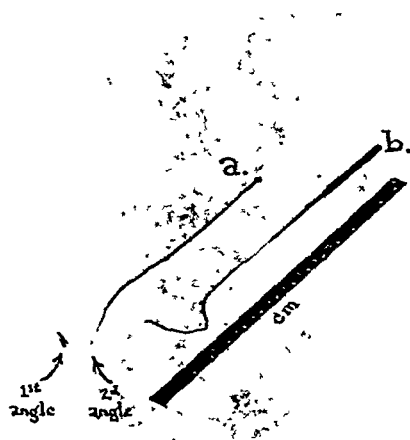


FIG. 5. Instruments employed for interruption of pallidofugal fibers. Above (a), the eyelet end of a soft probe is angulated so as to section the ansa lenticularis. The first angle is 45 degrees with reference to the axis of base. The second angle is 55 degrees with reference to the axis of base. Below (b), the metal applicator is bent so as to section the fasciculus lenticularis and the "fine fibers" of Papez.

downward and laterally, sliding along the superior-posterior edge of the anterior commissure and just below Crus I of the globus pallidus (Fig. 6). It has been demonstrated by Ranson and Ranson⁴⁴ that the fibers of the ansa lenticularis are derived almost exclusively from Crus I. The instrument is passed into the substance of the lateral wall of the ventricle until its second angle is within the ependymal lining, and from this position it is swept forward for a distance of approximately 6 mm. and backward for a distance of approximately 1 cm. The most medial and inferior fibers of the internal capsule will be avoided if the instrument is kept pressed home as described during the crucial maneuver. It is to be borne in mind throughout that the optic tract lies but a few millimeters behind

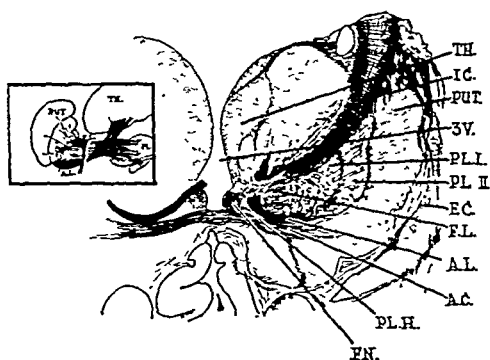


FIG. 6. Semidiagrammatic cross section of the basal ganglia at the level of the anterior commissure just rostral to the foramen of Munro. The broad line represents the horizontal plane of incision intended to interrupt the ansa lenticularis. Insert: A longitudinal schema of the pallidofugal fibers. The broad line represents the vertical plane of incision intended to interrupt the fasciculus lenticularis and the "fine fibers" of Papez. Abbreviations are as follows: A.C.—Anterior Commissure; A.L.—Ansa Lenticularis; E.C.—External Capsule; F.L.—Fasciculus Lenticularis; FN.—Fornix; I.C.—Internal Capsule; M.—Midbrain; PL.I.—Globus Pallidus, Crus I; PL.II.—Globus Pallidus, Crus II; PL.H.—Pallidohypothalamic Fibers; PUT.—Putamen; TH.—Thalamus; 3V.—Third Ventricle.

the posteromost limit of the section. The instrument is now withdrawn and a second instrument (Fig. 5) is introduced at the posteromost limit of the incision just described. This is swept vertically upward for a distance of 6 to 7 mm. It is intended by this maneuver to interrupt the "fine fibers" of Papez and the fasciculus lenticularis. In all probability the lower portion of Crus I of the globus pallidus is also damaged along the plane of this section.

The procedure described is practically bloodless. A small patty may be laid against the incision for a few minutes, as is practiced in chordotomy. When hemostasis has been accomplished, all patties are removed, the dura mater is resutured, and the bone flap is replaced and wired at two points. Closure of the fascia of the temporal muscle, galea, and skin is accomplished in separate layers with fine silk.

The postoperative measures required here differ in no wise from those appropriate to the care of other neurosurgical cases. Thus far, no postoperative physiologic disturbances have supervened in patients subjected to pallidofugal section which have not been encountered in the general run of cerebral sur-

gical procedures. Hyperthermia, blood pressure alterations, and hyperpnea have not presented serious problems in spite of the fact that the instrument employed for the section of the ansa lenticularis shears across the superior edge of the paraventricular nucleus.

The designation of this procedure as "interruption of the pallidofugal fibers" is obviously insufficient, since several other neural structures are incidentally damaged—notably, the cortex of areas 6 and 8 along the line of the incision and certain subcortical, corpus callosal, fornical, thalamofrontal, pallidohypothalamic, pallidothalamic, pallidohabenular, and (possibly) anterior commissural fibers. The term employed is therefore permissible only if it is implicitly understood (as in the use of terms such as section of the lateral spinothalamic tract, section of the lateral pyramidal tract, tractotomy of the descending spinal tract of the trigeminal nucleus, etc.) that other neural elements than those upon which attention is focused are also implicated.

Summary

Although a wide variety of pharmacologic, biologic, dietary, physical therapeutic, and psychologic agents has been employed, the treatment of parkinsonism still remains generally unsatisfactory. Within the past decade efforts have been made in several clinics to devise a surgical procedure on the central nervous system which might benefit one or more of the major features of this syndrome. The "central" operations that have been tried include section of the anterolateral, dorsal, and lateral pyramidal tracts of the spinal cord; ablation of portions of the motor and premotor cortex; extirpation of the dentate nucleus of the cerebellomesencephalic complex; and several procedures on the basal ganglions.

Because knowledge concerning the physiologic, pathologic, and pathogenic considerations relating to paralysis agitans is as yet in a highly uncertain state, it has been difficult to formulate a self-sustaining rationale for the several surgical procedures attempted. Unfortunately, the syndrome is not encountered in veterinary medicine, and thus far it has not been possible to reproduce the picture in laboratory animals. The present era is therefore one of empiric experimental surgery, and the subjects of experimentation are of necessity patients suffering from the syndrome.

The protocols of my present series of cases

subjected to operations on the basal ganglions have been published in detail elsewhere.^{1,2-4} Among 9 cases, the most effective measure (employed in Cases 7, 8, and 9) appears to be interruption of the pallidofugal fibers. Following this operation, alternating tremors are promptly and effectually improved, and rigidity, together with its secondary symptomatic effects such as akinesia, bradykinesia, deficiency of automatic associated movements, etc., is much diminished. The operation involves no enduring disturbance of sensory, motor, reflex, coordinative, language, euphraxia, intellectual, vegetative, or hormonal functions. It is seemingly capable of being applied to bilateral, as well as unilateral, cases of paralysis agitans, and it is conceivable that by breaking across the septum pellucidum (as in Case 7) a bilateral procedure carried out in a one-stage operation may come to be routinely employed.

The principles that guide the selection of the patient for surgery have been outlined. In brief, they call for a subject in whom the nature of the disease process is, at least from the clinical standpoint, clearly identifiable as parkinsonism and who in spite of a well-supervised medical regimen has proved refractory to the standard conservative therapeutic measures. The patient should be reasonably intelligent and cooperative and should represent a good operative risk.

The clinical and laboratory work-up of the surgical patient should be concerned with establishing the base lines of his general and special somatic, vegetative, hormonal, and psychologic processes so that the effects of operation may be accurately judged.

The technic of surgical interruption of the pallidofugal fibers is described. In substance, the operation calls for a short cortical incision through the premotor area, close to the midline and parallel to the plane of the falx. This incision is carried into the lateral ventricle, and from here the pallidofugal fibers are sectioned by means of two special instruments introduced at the anterior rim of the foramen of Monro.

From the technical standpoint the procedure described is relatively simple and susceptible of standardization.

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THOUGHTFUL

A while ago the Academy of Medicine offered a lecture by an English psychiatrist on the subject of war neuroses. This attracted an overflow crowd, and so a loudspeaker was placed in a second lecture room, on a table. A lady who was a member of the loudspeaker audience

reports that just before the talk began an attendant came in with a pitcher of water and a glass. He placed these beside the amplifier and retired, looking pleased with himself.

—The New Yorker,
January 10, 1942

ALUMNI DAY—NEW YORK UNIVERSITY COLLEGE OF MEDICINE

The date of the Annual Alumni Day at New York University College of Medicine has been changed back to the usual Washington's Birthday dates of February 20 and 21, 1942.

The program will begin with a dinner for all

the alumni and their wives at the Hotel Essex on Friday, February 20. On Saturday, February 21, there will be a scientific session at the medical school during the morning and afternoon and a luncheon in the lounge at noon.

THE VALUE OF HELIUM IN THE PREVENTION OF EXPLOSIONS OF ANESTHETIC MIXTURES

Experimental Data

GEORGE J. THOMAS, M.D., and GEORGE W. JONES, Pittsburgh

THIS is one of a series of publications issued as a result of a cooperative investigation between the Bureau of Mines, U. S. Department of the Interior, the St. Francis Hospital, Pittsburgh, and the University of Pittsburgh, relative to the explosion hazards of combustible anesthetic mixtures. Methods of eliminating such hazards through the addition of sufficient inert gaseous material such as helium or nitrogen have been proposed. The experimental results given in this report concern the elimination of explosion hazards of cyclopropane-oxygen, ether-oxygen, and ethylene-oxygen mixtures through reduction and control of the oxygen content by replacement of part of the oxygen by helium.

The method is based on the fact that every combustible gas, vapor, or dust will not burn or explode when the oxygen content of the mixture is reduced below certain definite proportions. These critical oxygen percentages are usually different for each combustible and vary with the inert gaseous material used to reduce the oxygen content of the mixtures and with the percentage of combustible present in the mixtures.

In the case of combustible anesthetics such as cyclopropane, ether, or ethylene, the concentrations of these cannot be altered extensively because definite amounts are required to give the desired degree of anesthesia. Nonexplosibility must, therefore, be brought about by replacing part of the oxygen with some inert, nontoxic gaseous medium that possesses the desired flame-quenching characteristics and be least objectionable to the patient breathing the mixture.

As shown in a previous Bureau publication,¹ those imposed limitations confine the inert gaseous mediums that may be used largely to helium and nitrogen. The value of nitrogen in the prevention of explosions has

been reported recently by Haas, Hibshman, and Romberger.²

Helium has certain desirable characteristics not possessed by nitrogen, both from the standpoint of the patient and the ability of helium to aid in the prevention and dissipation of static ignition.

Helium is one of the family of so-called inert gases which possesses the remarkable properties of extreme chemical inactivity and complete resistance to ordinary chemical changes. It is colorless, odorless, tasteless, and one of the lightest gases known, being about one-seventh the density of air. As recent as 1915, helium was merely a laboratory curiosity obtainable only in small quantities at the tremendous cost of about \$2,500 per cubic foot. Owing to its discovery in appreciable amounts in certain natural gases in the United States and the subsequent development of cheap and efficient methods of recovery, it is now being produced by the U. S. Bureau of Mines at a cost of less than 2 cents per cubic foot. Because of its present low cost and availability in large quantities for medicinal use, it became decidedly attractive as an agent for the prevention of explosions in the operating room for the following reasons: (1) Because of its low density, mixtures containing high concentrations of helium are much easier to breathe by the patient. (2) Because of its almost perfect inertness and low solubility in water and body fluids, it should exert no physiologic effect on the patient breathing it, provided normal proportions of oxygen are maintained. (3) Because of its property of high conducting power for heat and electricity, it has a decided advantage in the prevention of static ignitions of explosive anesthetic mixtures.

Barach,³ Eversole,⁴ Bonham,⁵ Sykes,⁶ and others have used helium for various reasons. As to whether any of these investigators have used sufficient proportions of helium to render the mixtures nonexplosive cannot be definitely stated.

The present paper deals with experimental work, giving the proportions of helium which must be present to maintain the mixtures outside the explosive range and, therefore, in-

Read by invitation at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 29, 1941. Published by permission of the Director, Bureau of Mines, United States Department of the Interior.

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capable of propagating flame irrespective of the source of ignition. It is not the purpose of this report to give in detail the exact procedure by which the inflammable and explosive ranges for the different combustible anesthetics—cyclopropane, ether, and ethylene—were obtained nor the various factors that affect the limits. Briefly, apparatus and procedures were employed which gave the widest range of inflammability, so that any mixtures that would fail to propagate flame in the equipment employed likewise would fail to propagate in anesthetic equipment, irrespective of the source of ignition, direction of flame propagation, or shape of the equipment.

Cyclopropane-Oxygen-Helium Mixtures

The explosibility of cyclopropane-oxygen-helium mixtures has been discussed in a previous report.¹ However, in order to compare the explosive and nonexplosive areas of cyclopropane with those for ether and ethylene, the curves are reproduced in this report. The limits of inflammability of all possible mixtures of cyclopropane-oxygen-helium mixtures are given in Fig. 1. It will be seen that diluting cyclopropane-oxygen mixtures with helium has only a minor effect on the lower limit of inflammability. The results indicate a slight decrease from 2.48 per cent for the lower limit of cyclopropane in pure oxygen to 2.15 per cent when the atmosphere contains about 75 per cent helium. The upper limit is seen to be affected markedly by the amount of helium present as shown.

From the curves given in Fig. 1 it becomes apparent that anesthetic mixtures below the lower limit of inflammability cannot be used, since such mixtures to be noninflammable must contain less than about 2.15 per cent of cyclopropane and are, therefore, too dilute for general anesthesia. However, a whole series of mixtures may be used that are above the upper limit of inflammability and, therefore, are noninflammable until air or oxygen is added to the mixture. All mixtures falling in the area to the right of curve *CE* and containing 3 to 60 per cent of cyclopropane may be used safely.

If it is desired to control the atmosphere in the anesthetic machine so that the composition at all times is outside the explosive area, the comparative explosive hazards can be obtained from the graph, provided the composition of the mixture is known. If a mixture represented by the point *J* (25 per cent cyclopropane, 25 per cent oxygen, and 50 per cent helium) is decided upon, the following

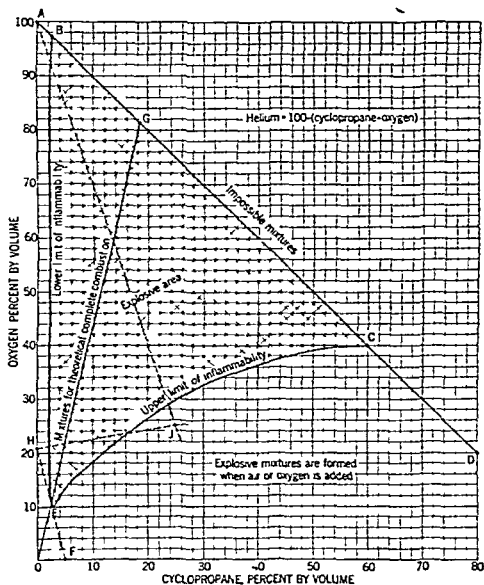


FIG. 1. Inflammability of cyclopropane-oxygen-helium mixtures.

method of administration may be followed. In a closed, recirculating, anesthetic apparatus the free space in the machine and the patient's lungs when administration is begun will consist largely of normal air containing approximately 20.9 per cent oxygen and no cyclopropane. This condition is represented by point *H*. As the 25, 25, and 50 per cent cyclopropane-oxygen-helium mixture is administered, the composition of the mixture in the apparatus and patient's lungs will shift along the broken line from *H* to *J* and pass through a narrow range of explosive mixtures as shown. However, this phase can be carried out without appreciable explosive hazards, since recent tests have shown that when the mixtures contain about 70 per cent of helium normal induction coil or static sparks are unable to ignite such mixtures containing less than about 19 per cent of oxygen, as shown in Fig. 2. They will, however, propagate flame rather rapidly if flame ignition is resorted to as shown in Fig. 1.

The mixture represented by *J* can then be administered to the patient throughout the anesthesia without danger of explosions inside the machine. (Additional oxygen must be administered to replace that demand by the basal requirement of the patient.) Should leakage occur about the mask or other parts of the machine, "flashes" may occur at the point of leakage if the gas becomes ignited,

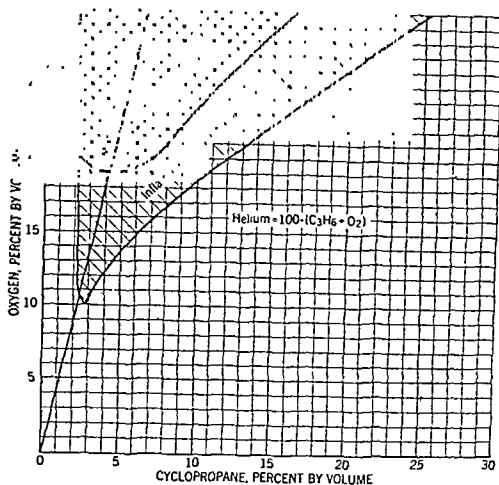


FIG. 2. Inflammability of cyclopropane-oxygen-helium mixtures. Effect of type ignition.

because the addition of air to the mixture, represented by *J*, will shift the composition of the mixture to the left along line *JH* and the mixture will become explosive in the area shown.

At the end of the period of anesthesia, when the mask is removed and the patient is allowed to breathe normal air, the mixture in the patient's lungs also will traverse this same line from right to left and an explosive mixture will be present for a short period.

To use cyclopropane-oxygen-helium mixtures in nonexplosive proportions, in which the mixtures are above the upper limit of inflammability, makes it mandatory that the patient's lungs contain explosive atmospheres for a short period both at the beginning and at the end of the administration of the anesthetic but obviates the necessity of employing highly explosive mixtures throughout the anesthetic processes, as is the general practice. Even these short periods at the start and end of the administration can be, and are being, eliminated in our recent clinical experiments by increasing the amount of helium present at the start of the administration and purging the patient's lungs at the end of the administration with helium-oxygen atmospheres containing reduced percentages of oxygen.

It can be reported that the method of prevention of explosive atmospheres of cyclopropane in anesthetic apparatus, through the control of the oxygen content by the use of helium, is now being carried out in three different hospitals in the Pittsburgh district and comprises hundreds of clinical experiments made during the last twelve months.

Ether-Oxygen-Helium Mixtures

Some interest has been shown in the use of ether-oxygen mixtures, since ether is used alone with oxygen or air and, in some instances, in conjunction with cyclopropane.

Laboratory investigations using the same type of explosion apparatus and similar experimental conditions were made to determine the explosive area of all possible mixtures of these gases. The results are given

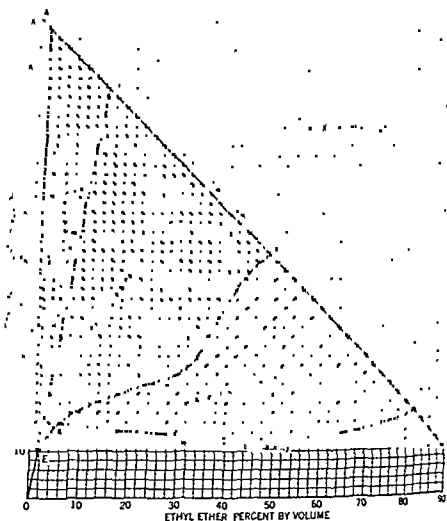


FIG. 3. Inflammability of ethyl ether-oxygen-helium mixtures.

in Fig. 3. Ether presents the peculiar properties of exhibiting so-called "cool flame" characteristics when the concentrations of ether in the oxygen exceeds certain percentages. To outline roughly this area of "cool flame," a separation has been made, and the area has been designated "aldehydic combustion" because of the fact that copious quantities of aldehydes were formed during the propagation of the pale blue to almost invisible flames through these mixtures. Otherwise, the method of presenting the results are the same as that given for cyclopropane in Fig. 1.

It will be seen that the oxygen requirements to prevent inflammable conditions are much lower in the case of ether than of cyclopropane. In fact, the mixtures must not have oxygen present in amounts greater than about 15 per cent if inflammability of the mixtures is to be prevented.

Whether helium can be added to ether-oxygen mixtures in sufficient proportions to

obtain noninflammability and still have sufficient oxygen present to meet the patient's requirements is not at all certain. The addition of helium to the point where the mixtures are brought into the area of aldehydic combustion would greatly reduce the explosive violence of the mixtures, but whether it would prevent flame propagation when ignited by induction coil or static sparks requires further experimental work.

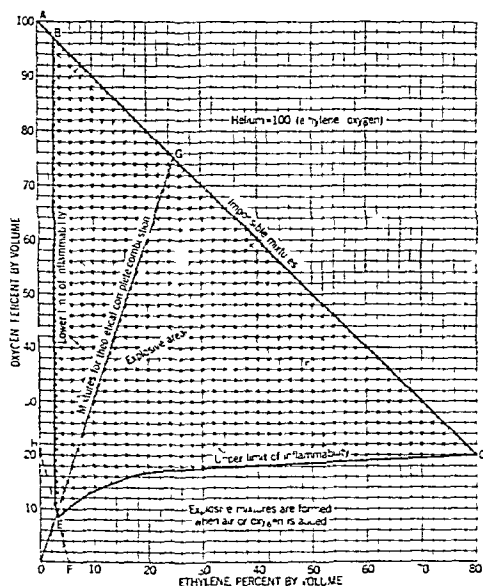


FIG. 4. Inflammability of ethylene-oxygen-helium mixtures.

Ethylene-Oxygen-Helium Mixtures

Tests similar to those described under cyclopropane and ether were conducted with ethylene-oxygen-helium mixtures, and the results are given in Fig. 4.

The results show that noninflammability of ethylene-oxygen mixtures can be obtained by the addition of helium without reducing the oxygen content to the extent of that found for ether. For mixtures containing from 20 to 80 per cent of ethylene the oxygen requirements to prevent inflammable mixtures are rather constant and range between 15 and 20 per cent.

Comparative results showing the oxygen requirements to prevent inflammability of cyclopropane, ether, and ethylene-oxygen mixtures when helium is used to replace part of the oxygen are shown to better advantage in Fig. 5.

As far as the lower limits of inflammability

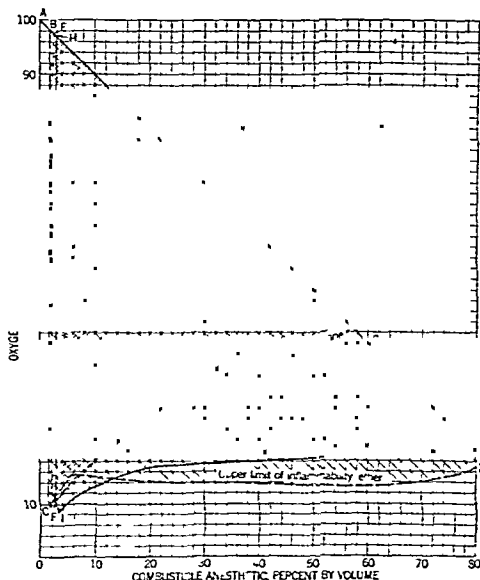


FIG. 5. Inflammability of cyclopropane-oxygen-helium, ethylene-oxygen-helium, and ether-oxygen-helium mixtures.

are concerned, they all lie so close together that there is little to choose between the different anesthetics.

In the case of upper limit mixtures (the ranges in which the anesthetics must be used), it is seen that there is marked advantage as far as oxygen requirements are concerned in the addition of helium to cyclopropane-oxygen mixtures for the prevention of explosions. For example, taking 20 per cent mixtures of each anesthetic, we find that the oxygen content in the case of ether should not exceed 14 per cent; ethylene, 17 per cent; cyclopropane, 26 per cent.

Taking equal percentages of each combustible anesthetic is not a fair comparison because the potency of the different anesthetics is not the same. Still, even when this factor is taken into consideration, it can be seen that the use of cyclopropane-oxygen-helium mixtures alone, without the addition of either ether or ethylene, offers the greatest promise in obtaining noninflammable mixtures because it is not necessary to reduce the oxygen content to the point where such diminution might become intolerable to the patient.

Technic for Administration of Noninflammable Cyclopropane-Oxygen-Helium Mixtures

The following technic has been devised for the administration of noninflammable cyclo-

TABLE 1

Time	Gas, Cc. per Minute			Soda Lime Absorber	Case No. 73, Remarks
	O ₂	C ₃ H ₆	He		
9:30	500	500	1,000	On	P-100, R-28
9:31	500	500	1,000	On	Sample 1
9:33	500	500	150	On	Sample 2. P-80, R-24
9:36	400	200	150	On	Sample 3
9:49	400	200	150	On	Sample 4
9:55	400	200	150	On	Sample 5
10:05	350	150	150	On	Sample 6
10:20	350	150	150	On	Sample 7
10:25	350	150	150	On	Sample 8 (around mask)
10:30	350	150	150	On	Sample 9
10:38	350	150	150	On	Sample 10. P-96, R-24

Analysis of Samples

Sample No.	Percentage by Volume				Case No. 73, Remarks
	CO ₂	O ₂	C ₃ H ₆	He + N ₂	
1	0.1	15.6	10.6	73.7	Not flammable
2	0.1	15.4	13.9	70.6	Do
3	0	16.9	15.0	68.1	Do
4	0.1	19.5	16.9	63.5	Do
5	0	20.3	18.4	61.3	Do
6	0	20.9	18.0	61.1	Do
7	0.1	18.4	19.3	62.2	Do
8	0.18	20.63	0.12	79.07	Taken outside mask
9	0.1	23.1	17.9	58.9	Not flammable
10	0.1	24.3	17.6	58.0	Not flammable

Note.—Induction smooth. Relaxation satisfactory. Color good. Anesthesia satisfactory.

propane-oxygen-helium mixtures. The technic recommended is for the average adult patient. The dosage must be governed by the patient's metabolic requirements and by the type and degree of premedication. Furthermore, we have found it necessary to vary our technic when using different types of apparatus because the calibration of gas machines vary. However, this last procedure may soon be corrected by the manufacturers. Therefore, in using cyclopropane-oxygen-helium mixtures, a close observation must be kept of the patient and a proper adjustment of the various gases must be made in order to maintain the desired plane of anesthesia.

The gas machine must be equipped with a carbon-dioxide absorber and a helium attachment having calibrated flowmeters covering a range from 100 to 5,000 cc. per minute. There also must be a 5- to 7-L. gas bag.

Adequate and proper premedication is essential for satisfactory anesthesia.

1. Purge the gas machine for two minutes with 500 cc. of oxygen and 3 L. of helium in order to eliminate any residual gas from a previous anesthetic.

2. Empty the bag.

3. Set the needle valves so the gases will flow in the following proportions: oxygen, 500 cc. per minute; cyclopropane, 500 cc. per minute; and helium, 1,000 cc. per minute.

4. Place the mask securely on the patient's face. Administer the above proportion for three minutes then change to the following: oxygen, 500 cc. per minute; cyclo-

propane, 500 cc. per minute; and helium, 150 cc. per minute.

5. Continue the above mixture until the patient enters the desired plane of anesthesia. Then administer the oxygen according to the patient's metabolic requirements. This usually requires from 250 to 450 cc. per minute. Use only sufficient oxygen to satisfy basal requirement.

The cyclopropane is administered *continuously* at rates varying from 50 to 200 cc. depending upon the plane of anesthesia desired.

If the bag becomes too greatly distended reduce the helium to 100 cc. It may, however, be necessary to release the pressure at frequent intervals at the exhaling valve.

Note.—The carbon-dioxide filter should be turned on at the beginning of the administration of the anesthetic or shortly thereafter because of the accumulation of carbon dioxide that usually occurs during anesthesia. If there are any signs of cyanosis or changes in the rhythm of the pulse, oxygen should be increased to correct these conditions.

At the completion of the anesthetic all the gases should be turned off, the face mask removed, and the machine pushed away from the patient.

We do not believe in flushing the patient with oxygen after the termination of the anesthetic. This is extremely dangerous because it will immediately throw the mixture into the explosive range. However, if one should feel it absolutely necessary to flush the patient, we recommended the use of one part of oxygen with five parts of helium.

In the event of leakage about the face mask or any other part of the anesthetic apparatus, the bag may be refilled by using the technic described in the induction period.

A typical example of the above technic is illustrated by Case 73 given in Table 1.

Conclusions

The method presented in this report for the prevention of explosions of combustible anesthetic mixtures is that of controlling the oxygen concentration of the mixtures within such limits that the mixtures are outside the explosive range.

The method is based on the fact that every combustible gas, vapor, or dust will not burn or explode when the oxygen content of the mixture is reduced below certain definite values. These critical oxygen values are usually different for each combustible and vary with the inert gaseous material used to reduce the oxygen content of the mixture

and with the percentage of combustible present in the mixture.

In the case of combustible anesthetics such as cyclopropane, ether, and ethylene, the concentration of these cannot be altered to any great extent because definite amounts are required to give the desired degree of anesthesia. Nonexplosibility must therefore be brought about by replacing part of the oxygen with some inert, nontoxic gaseous medium that possesses the desired flame-quenching characteristics and is least objectionable to the patient breathing the mixture.

This report gives additional information relative to the explosibility of cyclopropane-oxygen-helium, ether-oxygen-helium, and ethylene-oxygen-helium mixtures.

The results show that ether requires the lowest range of oxygen concentrations to maintain the mixtures outside the explosive range, that ethylene occupies an intermediate position between ether and cyclopropane, and

that cyclopropane (in concentrations in the upper limit range) permits a higher concentration of oxygen to be present while maintaining nonexplosive conditions.

On the basis of the laboratory results it is indicated that helium can be used to the best advantage in cyclopropane-oxygen mixtures for the prevention of explosions and to a slight advantage in the case of ethylene or ether-oxygen mixtures.

A technic and illustration were also submitted showing the administration of nonexplosive cyclopropane-oxygen-helium mixtures.

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Workmen's Compensation

The Medical and Claims Departments of the various insurance carriers were notified by the Compensation Insurance Rating Board on July 14, 1938, of a plan of procedure relating to the discontinuance of medical treatment then proposed by the Labor Department. This procedure was subsequently modified upon recommendation of the Labor Department. These modified rules and regulations were adopted by the Industrial Council and promulgated by the Industrial Commissioner on January 8, 1940. They were sent out to the various insurance carriers by their organization on July 17, 1940. We are reprinting these rules below and are requesting physicians to advise us at once if insurance carriers or self-insurers are not complying with them.

It is obligatory for an employer or insurance carrier before requesting a physician to stop treatment to have an examination of the compensation claimant made by a qualified medical examiner. A copy of the medical report must be sent to the attending physician. Recently, the insurance carriers organization has again instructed their Claims Department to carry out this procedure. Physicians who have received requests to stop treatment without the necessary report of the medical examiner should communicate the fact to this office at once, giving full details.—David J. Kaliski, M.D., Director, January 19, 1942

Procedure for Adjusting Differences of Opinion Between Attending Physicians and the Examining Physicians Employed by Carriers and Employers as to the Need for Further Treatment

Rule 1.—The employers or insurance carriers must exercise their right to have a medical examination made of a compensation claimant by their medical examiner, on which a direction to the attending physician to stop treatment must be based.

Rule 2.—A request forwarded to the attending physician to stop treatment must be accompanied by a report of the medical examiner employed by the employer or insurance carrier setting forth the physical findings.

Rule 3.—If the attending physician does not agree with the findings of the medical examiner, he must arrange to confer with the medical examiner for the purpose of reaching an understanding.

Rule 4.—If the attending physician and the medical examiner are unable to agree, a joint examination of the claimant should be arranged for the purpose of comparing the findings of both the attending physician and the medical examiner.

"Rule 4 is not mandatory although the Representatives of the carriers and employers agreed that this procedure should be used whenever possible."

THE RESULTS OF TREATMENT WITH BACILLUS COLI METABOLIN IN ALLERGIC RHINITIS

HARRY H. SHILKRET, M.D., New York City

IN THE June 15, 1941, issue of the NEW YORK STATE JOURNAL OF MEDICINE, Elsbach¹ reports 75 cases of allergic rhinitis treated with a preparation called "Coli Metabolin." He speaks of it as a "new biologic treatment . . . which appears to act to a high degree as a stimulant to the natural functions of the sympathetic system and renders it foolproof so that it no longer reacts to any irritant . . . and seems to have a desensitizing effect on it." This product is obtained by culturing the *Bacillus coli* found in the human intestines on "specific" culture mediums, incubating the pure cultures at body temperature, transplanting them, attenuating them, and then diluting them with physiologic salt solution. After septic filtration the metabolins in the clear liquid are used therapeutically.

His treatments consisted of eight to twelve intramuscular injections of 2 cc. each of the *B. coli* Metabolin; the first five injections were administered within five days and the remainder were given at intervals of one to two days. Treatments were begun at the onset of acute symptoms. No protocols or bibliographic materials were included in this report, nor was it stated at what period of time the experiments were carried on.

In his series a study was made of 75 cases of allergic rhinitis. These were divided into two groups: those presenting seasonal symptoms and those with perennial symptoms. No skin tests were made. Of the 75 cases under treatment with *B. coli* Metabolin, he claims a cure in 53 cases (70.7 per cent); improvement in 21 cases (20 per cent), and a poor result in 1 case (1.3 per cent). The author does not interpret the term "cured."

In a personal communication with the author, he informed me that this work was done in 1940. He mentioned that some of this work had been done in Germany with some success.

Soon after Elsbach's results appeared in the NEW YORK STATE JOURNAL OF MEDICINE, statements of a "cure" for hay fever and other allergic conditions also appeared in several

newspapers quoting his article. Physicians throughout the United States asked for supplies of *B. coli* Metabolin, and many have already used this preparation in the treatment of all types of allergic cases. The reports and the results of a considerable number of these cases are now in the possession of the Tosse Laboratories.

Many patients attending our clinics with allergic conditions have made requests for this "cure" treatment. Because of this and because of the excellent results reported by Elsbach, we were prompted to investigate the value of *B. coli* Metabolin.

In our series 20 cases were studied. Ten of these suffered with ragweed sensitivity; the remaining 10 had perennial allergic coryza.

Of the hay-fever patients, 5 were uncomplicated types, 3 had slight asthmatic symptoms, and 2 had histories of symptoms after the hay-fever seasons.

Of the patients with perennial allergic coryza, 8 were uncomplicated cases, 1 had occasional attacks of mild asthma, and another had polyps of the nose.

Following the treatment outlined by Elsbach, at least ten injections, at intervals as nearly as possible as those suggested by him, were given each of the patients we studied. Treatments were given only to those who presented acute rhinitic symptoms.

The groups of patients with hay fever were studied at the City Hospital Allergy Clinic; those with perennial allergic coryza, at the French Hospital. The treatments were begun in our hay-fever group on August 26, 1941, when the supply of *B. coli* Metabolin was first available to us. The patients with perennial symptoms started their therapy on October 15, 1941, after the ragweed season. Each group was purposely treated during the same period of time.

In all cases careful histories were taken, progress notes were recorded, and daily symptom charts were kept. In the hay-fever group, notes were kept from August 12, 1941, to October 1, 1941. In our second group (with perennial allergic coryza), records were kept from August 1, 1941, to November 1, 1941. Intradermal tests consisting of the most important inhalants and ingestants were performed on all the patients. Nose and throat

¹Presented at a meeting of the Association of Allergy Clinics of Greater New York, November 6, 1941.

From the Allergy Clinics, French and City hospitals, New York City.

TABLE 1.—CASES OF HAY FEVER TREATED WITH B. COLI METABOLIN (OBSERVED FIFTY DAYS)

Case No.	Class (Ragweed)	Complications	Duration, Years	Previous Therapy Results	Treatments with B. Coli Metabolin		Results
					No. of injections	Symptom-free days after injection	
1	C		10	Preseasonal—good	12	5	Poor
2	B		6	Seasonal—fair	15	3	Poor
3	BC		2	Seasonal—good	12	0	Poor
4	C		13	Preseasonal—good	13	6	Poor
5	C		7		12	6	Poor
6	C		8		10	5	Poor
7	C	Vasomotor rhinitis	2		14	4	Poor
8	C	Asthma	3	Preseasonal—good	10	3	Poor
9	C	Asthma	10	Seasonal—fair	16	0	Poor
10	C	Asthma	10	Seasonal—good	10	0	Poor

consultations were made on the cases of allergic rhinitis, and the reports are included in our charts. To serve as a comparison, notes were made of the previous treatments received by our patients, and their opinions as to the results they obtained were recorded. Particular attention was noted of their treatments during 1940.

To correlate our results with patients who were treated with the accepted forms of pollen therapy, we referred to our daily records of symptoms and progress notes which were kept of many other patients with hay fever under perennial and preseasonal therapy. In order to make our results comparable, we chose 10 cases each of hay-fever patients treated perennially and preseasonally, respectively, during 1940 and 1941 and computed the results obtained from these forms of therapy. The charts of these patients were chosen in alphabetical order, and only those charts were accepted which had the necessary progress notes and in which the patients' records showed completed treatments.

In calculating our final results, we used the same standards in all cases—that is, we recorded the number of days in which the patients had moderate to severe hay-fever symptoms, from August 12 to October 1, 1941. Subtracting these days from the fifty "ragweed fever days" gave us the number of symptom-free days. Then the percentage of relief was obtained by dividing the number of symptom-free days by fifty. We finally expressed our results by using the following standards: 90 to 100 per cent, considered excellent results; 80 to 90 per cent, considered good results; 70 to 80 per cent, considered fair results; and 65 per cent or less, considered poor results.

In the cases with perennial coryzas, we depended upon the patients' impressions as to the results they had with their former treatments as compared with B. coli Metabolin.

After our results on B. coli Metabolin were computed and the progress notes were studied, Durham's survey of the pollen counts of the ragweed seasons of 1940 and 1941 were referred to.

Results

1 (Table 1). Of the 10 cases with hay fever treated with B. coli Metabolin, 8 were relieved of their symptoms for only three to ten days out of the fifty days they were under our observation. In other words, most of them suffered at least forty to forty-seven days during the ragweed season; the remaining 2 suffered during the entire fifty days. In this group the most common of the symptom-free days occurred on certain days and did not seem to be related to the number of injections given to a patient. They occurred on August 12 to 14 and 18 to 20, before the injections were given, and on August 27 to 29, September 2 to 4, 12 to 13, and 29 to 30, after the injections were begun. After the treatments on these 10 patients were completed, all of them felt that they had little or no relief from this form of therapy. One patient with asthma required hospitalization. After receiving their injections, 2 complained of stomach cramps, 1 complained of diarrhea, and another complained of headaches. A few patients did not return for further treatments and are not included in this study. Those patients who had previously been treated with the accepted forms of therapy felt that they did much better with their former treatments.

2 (Table 2). Of the 10 cases with allergic coryza treated with B. coli Metabolin, 6 of them were relieved of their symptoms from one to four days, and the remaining 4 had no relief during the thirty days after their injections were begun. In other words, most of them suffered twenty-six to thirty days of the thirty days they were observed. On questioning them, they said they felt that their

TABLE 2—CASES OF PERENNIAL ALLERGIC CORYZA TREATED WITH B. COLI METABOLIN (OBSERVED THIRTY DAYS)

Case No.	Positive Intradermal Tests	Complications	Duration, Years	Previous Therapy	Treatments with B. Coli Metabolin			Results
					No. of injections	Symptom-free days		
1	Dust, cat, etc		4	Dust and vaccine—	fair	12	2	Poor
2	Dust, orris, etc		2	Dust and vaccine—	fair	12	2	Poor
3	Dust		10	Dust and vaccine—	fair	12	0	Poor
4	Dust, timothy, etc		13	Dust and timothy—	good	12	2	Poor
5	Dust, feathers		1			12	1	Poor
6	Dust, fish, etc.		2			12	2	Poor
7	Dust		1 1/2	Dust and vaccine—	good	12	0	Poor
8	Dust, vaccine	Asthma	2			10	0	Poor
9	Dust, vaccine		2			10	0	Poor
10	Dust	Asthma	4	Dust and vaccine—	poor	10	0	Poor
				Dust and vaccine—	fair	12	4	Poor

TABLE 3—COMPARISON OF RESULTS IN TREATMENT OF RAGWEED CASES PERIOD OF OBSERVATION, AUGUST 12, 1941, TO OCTOBER 1, 1941 (50-DAY PERIOD)

Case No.	Accepted Pollen Therapy		B. Coli Metabolin	
	Perennial	Preseasonal	Before injection	After injection
1	41	46	4	5
2	44	46	3	3
3	48	29	3	0
4	35	40	3	6
5	35	35	4	6
6	49	35	3	5
7	41	48	2	4
8	47	40	0	3
9	49	38	0	0
10	48	40	2	0
Total symptom-free days	437	397	24	56
Average symptom-free days per person	44	40		6
Number of days observed	50	50		50
Average percentage relief	88%	80%		12%
Interpretation	Good	Fair		Poor
Results 1940: perennial, excellent; coseasonal, good		excellent; preseasonal, ex-		

new therapy gave them much less relief than the therapy they previously had, even though they had had only fair to good results from them. Three of this group felt that B. coli Metabolin made them feel worse, and 2 refused to continue further with these treatments. After her third injection, one of this group developed angioneurotic edema and asthma for the first time since the onset of her illness two years before.

Comment

Assuming that by "cure" Elsbach means a cure of symptoms rather than a cure of the disease, the results he obtained in 1940 are only fair. This is significant since the general experience among allergists shows that the year 1940 was one of clinically mild hay fever. The results obtained in our clinics is outlined in Table 3. During that year most of our patients had excellent results with both perennial and preseasonal therapy and even good results with coseasonal therapy. The general experience in 1941 has been of severe hay-fever symptoms with results of therapy, in any form, not so favorable as those of 1940. In 1941 we had our best results with perennial therapy and only good results with preseasonal therapy. If you will compare (Fig. 1) the survey of pollen counts as published by Durham² in 1940 and 1941, you will see the direct reason for the severe hay-fever season in 1941 as compared with the mild one in 1940. Perhaps this is the reason for Elsbach's favorable report.

It is also interesting to note that with B. coli Metabolin the most common symptom-free days in our group of 10 patients during the 1941 ragweed season, occurred on the following dates: August 10 to 14, 18 to 20, 27 to 29; September 2 to 4, 12 to 13, 29 to 30. The symptom-free days, therefore, apparently coincided with the definite drops in the pollen

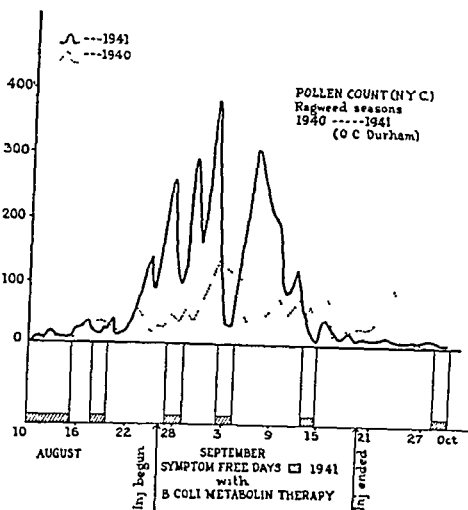


FIG. 1.

count, as is shown in Fig. 1. Since none of these patients had relief on the higher pollen count days, we can say that the alleviation of symptoms in our series of cases was due to favorable meteorologic conditions rather than to the efficacy of the medication.

In our series of perennial allergic coryzas where there is no specific measure of antigenic content of the environment and where the antigenic index, for the most part, remains fairly stable, we had to depend entirely on the subjective reaction of the patient as to results with the new therapy and the comparison of these with the results from the orthodox therapy of specific hyposensitization. Here, in our experience, the orthodox therapy gives only fair to good results. In spite of this, the patients themselves preferred this accepted form of therapy to that with B. coli Meta-

bolin. In this group, three patients refused to continue with B. coli Metabolin because they felt it made them worse. One of these patients who suffered from perennial allergic coryza for two years developed angioneurotic edema and asthma for the first time after receiving the third injection. Whether or not this was a constitutional reaction to the medication, we are not prepared to say. We intend, shortly, to study this phase of the problem.

Conclusion

B. coli Metabolin is of no value in the treatments of hay fever or allergic coryzas.

References

1. Elsbach, E. J.: New York State J. Med. 41: 1248 (June 15) 1941.
2. Durham, O. C.: Courtesy of Abbott Laboratories.

IMPROVING ADVERTISING STANDARDS

The Pennsylvania Newspaper Publishers Association is playing an important role in that state toward improving standards of advertising. The committee has suggested twelve guides specifically connected with the advertising of proprietary medicines, several of which, if adopted, says the *Pennsylvania Medical Journal*, will undoubtedly prove effective in curing the duping of newspaper readers who are inclined to swallow any claim for any remedy for any condition that they, through the processes of self-diagnosis, believe is their own particular ailment. They are:

The display lines of medical advertisements should not duplicate, or too closely resemble, regular news dress.

The following advertising should be carefully scrutinized with the possibility of elimination, since copy of this nature in a large percentage of cases is fraudulent: Bright's disease, cancer cure-alls, deafness (except mechanical devices), diabetes, diphtheria, dropsy, epilepsy, gallstones, goiter, heart disease, high blood pressure, infantile paralysis, leg sores, obesity, prostate gland, remedies given secretly, stomach ulcers, tuberculosis, venereal diseases.

Advertisers cannot claim that a product will cure: this applies either by direct statement or by various forms of inference. The words "rid," "check progress," and "remove the cause" fall in this category.

Any advertising regarding internal ailments which offers to "diagnose, prescribe, or give special instructions for treatments of particular cases by mail" should not be published.

Implied or direct reference to the restoration of "lost manhood or womanhood, full vigor of manhood or womanhood," etc., should be barred.

All remedies taken internally, or applied externally, which claim to reduce weight should be eliminated.

No reference should be made to the fact that "your doctor would recommend" a specific product. "Doctors everywhere" falls under this same provision. Names of specific doctors may be used.

WHAT'S YOUR E. Q.?

[E. Q. = Emotional Quotient, in case you are wondering.]

An emotionally mature person, says Helen R. Sherman, instructor in the Adult Education Division, Wayne University, has some idea of what he wants to get out of life. He can take responsibility and make decisions. He can accept blame, criticism, and praise casually. He can suffer without disintegration; i.e., he has courage. He is ready to put himself to the test. He realizes effort rather than luck is the foundation of success.

An emotionally mature person has an objective, fairly accurate idea of himself. He knows his strong points and his weak ones and is aware of his biases, prejudices, and fears. He is fair, not conceited, not sorry for himself, has a sense of humor. He does not habitually ask that favors be done him. He can plan his time and is seldom late or rushed.

An emotionally mature person habitually faces the situation as it is and not as he wishes it were. He adjusts to unchangeable facts with the least possible discomfort. He lives in the present, does not rehearse the failures or hurts of the past, plans for but does not worry about the future.

An emotionally mature person does not expect perfection from himself or others and does not fret over minor personality defects. He knows that there must always be error and conflict and that there is no easy, quick solution for difficult problems. He knows that improvement of behavior in self or in others requires time, skill, wisdom, and self-sacrifice. He puts his attention on the successful aspects of his own and other people's lives. He has confidence, tolerance, and zest.—*Talk, published by The National Hospital for Speech Disorders*

CHRONIC HYPERTROPHIC OSTEOARTHRITIS IN THE CERVICAL SPINE WITH RADICULITIS

A Report of 40 Cases with a Review of the Literature Together with Some Notes on Effective Methods of Treatment—Part III

LE MOYNE COPELAND KELLY, M.D., F.A.C.P., New York City

Differential Diagnosis

When a patient presents himself for the relief of pain in the neck, shoulder, or upper extremity, there are a great variety of conditions which must be considered: (1) *local conditions* in the shoulder, breast, or chest wall—for example, an arthritis of the shoulder joint, subdeltoid or subacromial bursitis, muscle sprain, tumor of the breast, or fractured rib; (2) *lesions in the spinal column*, the spinal cord or its roots—viz., cervical rib, tumors, intercostal neuralgia, and various neuritides (toxic, infectious, or that associated with avitaminosis); (3) *shoulder pains referred from visceral diseases* as seen in gastrointestinal disorders (notably of the stomach and gallbladder) and pulmonary lesions such as pleurisy and Pancoast's superior sulcus tumor; and (4) *metabolic disorders* (particularly hypothyroidism). A good idea of the difficulties that may arise in making the diagnosis in a patient complaining of painful shoulder may be obtained from Case 17.

Case Report

Case 17.—Mrs. E. H., aged 58, was seen in a dispensary in September, 1940, complaining of "arthritis" in the left shoulder for a period of twelve years and acute pain in that shoulder on the slightest motion for the previous two weeks, together with "pains all over" for three months and knifelike abdominal pain "off and on for six weeks." On physical examination the patient complained bitterly of excruciating pain in the left shoulder when it was moved in any direction, but more so on abduction, and there was marked tenderness on direct pressure over the insertion of the deltoid muscle. Her throat was injected and pus could be expressed from the tonsils. The clinical impression was that she had an acute subdeltoid bursitis with possibly some osteoarthritic change in the left shoulder joint.

An x-ray of that shoulder showed peritendinous calcification and the sedimentation rate was considerably elevated, all of which tended to bear out our diagnosis. However, when five physical therapeutic treatments failed to produce any benefit, she was sent to the roentgenologist for deep x-ray therapy. His summary, which describes so well the usual history in these cases, was as follows: "For the past seven years this

patient has been treated for various types of pain which seems to have involved most of her body at one time or another." He advised deep x-ray therapy to the left shoulder and the patient received this (1,600 r units in air) within a period of eighteen days. At the end of this time, however, she was not improved and the same marked limitation of motion was still present.

About a month later she returned complaining of pain in the region of her left trapezius muscle with radiation down over the deltoid and lateral aspect of the left arm as far as the wrist. This was always worse just before bad weather and she described it as being so severe at times that she "could not even raise her hand to comb her hair." There was also some occipital headache in the morning upon awakening. X-rays of the cervical and dorsal spine at this time showed a narrowing of the intervertebral space C 1-2 (particularly on the left side), together with other changes characteristic of hypertrophic osteoarthritis. There was considerable bony bridging in the lower dorsal area. Therefore, x-ray therapy was given, this time to the cervical spine, and after 1,200 r units in air her symptoms had largely disappeared.

Special note: Two weeks after first being seen for the shoulder pain, this patient returned to the clinic complaining of sharp pains in the epigastrium not related to food or activity. These radiated up behind the sternum and were followed by a bilateral soreness beneath the lower ribs (her gallbladder had been removed fifteen years previously). A gastroenterologist who saw her during one of these episodes of pain said: "The patient's symptoms may be cardiac, but I think we should rule out the gastrointestinal tract." Gastric analysis was normal and a gastrointestinal series showed only a small diverticulum of the second portion of the duodenum. Examination of her abdomen at the time of the shoulder pain had revealed considerable tenderness in both lower quadrants, and there was still some slight tenderness in the epigastrium and both lower quadrants when examined for her epigastric pain two weeks later. However, when seen again, six weeks after the original gastric episode, all the abdominal pain and tenderness had entirely disappeared.

Just as symptoms of a radicular nature from an arthritis of the cervical spine should call our attention to the possibility of associated gastrointestinal symptoms being on a

radicular basis, so should symptoms in other segments of the body call our attention to the possibility of this condition in the cervical spine.

Perhaps the greatest difficulty in diagnosis arises in differentiating the root pain of hypertrophic arthritis of the cervical spine from that of a new growth in the spinal cord or vertebral column. However, Elliott^{11*} reminds us that tumors in this area usually give distinct pressure symptoms as well as root pains, while Parker and Adson³³ point out that in the latter condition marked relief is ordinarily obtained by walking the floor at night or sleeping upright in a chair, whereas in arthritis, this only tends to aggravate the patient's symptoms. Moreover, where a tumor is present in the vertebra, the sedimentation rate is apt to be increased, and there will, as a rule, be some change in the serum phosphatase.

Four cases of especial interest have appeared in the foreign literature. These show how bizarre may be the type of onset and demonstrate how such variations can tend, at times, to confuse the picture. In two of the reports^{33,43} the patient's chief complaint was simply difficulty in swallowing, which was rather promptly relieved by the application of heat to the cervical spine. Another case⁷ was originally diagnosed as a meningitis due to a marked spasticity of the neck muscles. The fourth patient¹⁶ at first was thought to be suffering from an atypical form of amyotrophic lateral sclerosis because of the dragging of one leg and other difficulties of motor control. However, the fifth and seventh cranial nerves were never involved in the disease process, so that a diagnosis of chronic hypertrophic osteoarthritis of the cervical spine seemed most probable.

Treatment

It is nearly seventy years now since Anstie¹ stated in his paper before the Clinical Society of London that "it is worthwhile to remember that cervico-occipital neuralgias, by the consent of the best authorities, are decidedly hard to cure by any treatment." Many recent authors have been content to describe the disease process without advising as to the best procedure for relieving the patient. In general, three effective methods have been used:

1. *Physical Therapy*—Heat in all forms is recommended.

2. *Traction and Manipulation*.—Wagen-

thals⁴⁷ and Neviaser³² applied hyperextension to the spine along with applications of heat and secured gratifying results. Hanflig²⁰ used the Sayre head traction apparatus and proceeded to maintain the hyperextension in 5 of his cases by fitting a Thomas collar (all of the patients complained that their root pains began to return as soon as they were lowered to a sitting position). Some authors⁴² applied traction only in those few cases where the symptoms tended to persist following x-ray treatment or where there was some particular mechanical indication for it.

3. *Deep X-Ray Therapy*.—This gives the most satisfactory results in those patients not relieved by physical therapeutic measures. It was first used in 1932 by Bisgard⁵ who reported that he obtained his best results by repeated small doses. Two years later, Chaumet⁸ stated that radiotherapy in moderate dosage two to three times a week anteriorly and posteriorly to the cervical spine gives relief, as a rule, after a lapse of time varying from one to four weeks. "There is no question that x-ray is the best treatment by physical agents." Gauducheau¹⁵ reported recently on 27 cases treated with deep x-ray, of which 24 were cured or much improved by using the following method: 130 kilovolts, 6 mm. alum, 8 by 10, 25 cm., 50–200 r units given twice a week (total course 1,000 r units in air). He quoted Zimman as having obtained equally good results in 35 out of 41 cases by the same method.

Pfender³⁵ states that it is difficult to explain the curative action of the roentgen ray in these cases, "for it is certain that the osseous lesions are not affected by this treatment and that normal bone tissue cannot be restored. Furthermore, although the primary lesion lies in the osteophytes, they apparently play no part in the causation of pain; rather, it is the secondary lesion (i.e., the extension of the inflammatory process to the intervertebral foramina), which is the underlying cause of the pain."³⁰ We must assume, therefore, that these rays act on the connective tissue surrounding the nerve in its foramen and, by reducing the inflammation, relieve the pressure on the nerve itself. Decompression having taken place, the pain promptly disappears." It is his opinion that the early cases are more amenable to x-ray therapy and that comparatively small doses give the best results.

Some authors have advised large doses of brewers' yeast, while others—on the premise

* For references see Part I, January 15 issue.



FIG. 3. Original x-ray of cervical spine taken on Case 2 in July, 1937, at which time symptoms were relatively mild. Some thinning of the disk is apparent between C 5 and 6.



FIG. 4. X-ray taken fourteen months later, showing progressive thinning of same disk with an associated increase in patient's complaints.

expressed by Williams⁴⁹ that "there is no criteria by which involvement of the intrameningeal portion of the root can be differentiated from the extrameningeal part, for the involvement of either of these parts will be manifested as a radicular disturbance"—have given injections of thiamin chloride in large doses. Our experience has been that some patients will recover while taking large quantities of yeast, but the time period required for this improvement is in general about twice as long as for those patients who receive deep x-ray therapy.

Discussion

Hartsock²¹ maintains that there is little doubt that a great many cases of osteoarthritis of the cervical spine with radicular symptoms escape detection because of the fact that the x-ray findings, on first examination, have been reported as negative. Other authors,^{11,50} too, have called attention to the urgent need for considering the possibility of this condition even in the absence of any

definite x-ray changes. Turner and Oppenheimer⁴² cited several cases in their study of 50 patients who had a fully developed clinical picture without x-ray confirmation. All of these cases, however, had a distinct narrowing of one or more interspaces, as was so beautifully shown in their published photographs. A reproduction of one of Morton's²³ roentgenographs also showed this characteristic thinning of the intervertebral disk, but the author did not mention this finding as being of importance in making this diagnosis.

Parker and Adson,³³ moreover, were able to state conclusively, after careful pathologic studies on gross specimens, that "hypertrophic changes in the spinal column may be extensive and present for a considerable period of time without any x-ray evidence whatsoever of their presence." Consequently, in the early stages, even though the clinical symptoms may be very acute, a change in the cervical vertebrae will not always be demonstrable on the roentgenograph. It is only when the process has been present

for some time and permanent bony changes have resulted that the x-ray picture will show findings characteristic of chronic osteoarthritis.

We have a patient whom we have had under observation at infrequent intervals over a period of approximately four years, during which time the x-rays of her cervical spine (originally considered negative) showed progressive thinning of the disks with each increase in her clinical symptoms (Case 2) (see Figs. 3, 4, and 5).*

Case Report

Case 2—Mrs. E. M., aged 52, was first seen in July, 1937, complaining of pain in the back of her neck for a period of two years. Physical examination showed only a guarded position of head and neck, and an x-ray of the cervical spine was reported negative. The sedimentation rate was normal. She received physical therapy, massage, and exercises without appreciable benefit. Fourteen months later (September, 1938) she returned complaining of low back pain. An x-ray of the spine at this time showed only mild osteoarthritis of cervical and dorsal bodies with some lipping. Physical therapy and salicylates afforded temporary relief.

She disappeared then for over two years but returned in December, 1940, complaining of pain in both shoulders for a period of eight months. She stated that it had become more severe of late and was associated with frequent, shooting pains in the left upper extremity. She said: "As a rule, I'm up all night with it. If I can find a comfortable place in bed, I can go off to sleep for an hour or so, but the first thing I know, it wakes me up again. I've had a crink in my neck of late and my head aches when I get up in the morning. It isn't really like an ordinary headache; I hardly know how to describe it, for my head just hurts all over." Physical examination showed the same limitation of motion in the neck and left shoulder, but by this time there was some crepitus in her neck as well. An x-ray of the cervical spine taken at this time showed a considerable increase in the findings of osteoarthritis, particularly in the lower vertebrae with narrowing of the intervertebral spaces, especially C 5-6. The left shoulder was negative. Thereupon, deep x-ray therapy to the cervical spine was instituted, and the patient's symptoms had entirely disappeared after two weeks' treatment.

Another case is cited in the literature where the patient had a consistently negative x-ray for a period of eighteen months, during which time he was seen by several physicians. No definite diagnosis was made until he was examined by Gillespie¹⁶ who found a marked



FIG. 5. Film taken twenty-seven months after Fig. 4, showing a marked decrease in the thickness of the same intervertebral disk with consequent encroachment upon the intervertebral foramina and a sharp increase in patient's symptoms.

deformity of the cervical spine with hyperextension of the head. He did not wait for a positive x-ray picture to make the diagnosis of chronic hypertrophic osteoarthritis of the cervical spine but relied entirely on the history and physical findings. In 4 of our cases we found these factors so characteristic that we did not hesitate to make this diagnosis, even though it could not be confirmed at the time by x-rays.

Summary

1. The incidence of cases of chronic hypertrophic osteoarthritis of the spine associated with symptoms is apparently increasing both in private and clinic practice.
2. Thinning of the intervertebral disk can cause a unilateral or bilateral narrowing of the corresponding intervertebral foramina with resulting compression of nerve roots.
3. There is a predilection for the pathology to center in the lower cervical verte-

* Figs. 1 and 2 appear in Part II, February 1 issue



FIG. 3. Original x-ray of cervical spine taken on Case 2 in July, 1937, at which time symptoms were relatively mild. Some thinning of the disk is apparent between C 5 and 6.



FIG. 4. X-ray taken fourteen months later, showing progressive thinning of same disk with an associated increase in patient's complaints.

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Diagnosis

CLINICOPATHOLOGICAL CONFERENCES

FOURTH MEDICAL DIVISION OF BELLEVUE HOSPITAL

Conducted by Dr. Henry C. Fleming

History

The patient was an 80-year-old white woman admitted on December 15, 1941. She had suffered "heartburn," flatulence, and constipation for twenty years. She had been obliged to limit her diet to the simplest foods and had received relief from sodium bicarbonate and carthartics. During the past four years the patient had suffered five attacks of severe right upper quadrant pain, which radiated around to the flank and occasionally to the right shoulder. The attacks lasted as long as forty-eight hours. She entered the hospital because of severe right upper quadrant pain, which, however, did not radiate to the shoulder. Jaundice of the skin was noted on admission, along with the development of pain. The urine was dark but the stools were not clay colored. There had been a 35-pound weight loss during the four years prior to admission. The patient's father had died of carcinoma of the rectum. Appendectomy was performed about ten years prior to admission.

The patient was described as a remarkably well-preserved and well-developed 80-year-old white woman, moderately jaundiced. She was mentally clear on admission but was in acute pain. On admission the temperature was 101.2 F.; pulse, 96; respirations, 22; blood pressure, 102/56. The positive findings included icteric scleras, an edentulous mouth, and marked right upper quadrant tenderness with minimal muscle spasm. There was a right rectus incision below the umbilicus. Some observers described a mass in the right upper quadrant which was thought to be distended gallbladder. The heart was not enlarged, there was regular sinus rhythm, and the sounds were of fair quality. There were no thrills or murmurs present. There was a large scar on the left side which was the result of an old burn. There was no clubbing, cyanosis, or edema of the extremities. The rectal examination was negative. The clinical impressions at the time of admission included acute empyema of the gallbladder, common duct stone, and metastatic carcinoma of the liver.

Laboratory Findings.—The urinalysis on admission showed a specific gravity of 1.014 and a 2 plus albumin. The urine was positive for bile. A day later, tests for urobilin and urobilinogen were negative. The red blood count was 5,100,000 with 100 per cent hemoglobin, the white blood count was 17,350 with 84 per cent polymorphonuclears. On December 17 the blood nonprotein nitrogen was 60; the blood sugar, 95. The icteric index was 65; the van den Bergh, direct, showed an immediate reaction, and the blood cholesterol was 211.

The pain gradually subsided, but the temperature rose to 103.8 F. on the fifth hospital day, at which time the jaundice had increased and the white blood count was 17,300. Patient began at this time to sink gradually into a comatose state, but despite her condition it was thought that surgery would offer the only hope of relief. The patient was operated on through an upper right rectus incision but, owing to the poor condition of the patient, cholecystostomy was done. The common duct was not explored. The patient died on December 22, 1941, on the seventh hospital day.

Discussion

DR. HENRY C. FLEMING: Gentlemen, you have all heard and probably read the protocol. I shall ask Dr. Washburn to comment.

DR. ARTHUR L. WASHBURN: I suspect a ball valve stone of the common bile duct with empyema of the gallbladder. The red blood count and hemoglobin are against carcinoma. I feel that the increased white blood count and the temperature rise are perfectly consistent with common duct stone. The various digestive difficulties that the patient had had for twenty years were the symptoms of chronic cholecystitis. The severe attacks of pain were typical of ball valve stone.

DR. HENRY C. FLEMING: Did the patient have a small or large gallbladder?

DR. ARTHUR L. WASHBURN: The patient, according to description, probably had a distended gallbladder. She had had five

brae, since these are more subject to trauma, and the foramina in this area are smaller in proportion to the size of the emerging nerve roots.

4. The outstanding characteristic of this syndrome is aggravation of all symptoms by any movement of the spine (particularly by hyperextension) and by coughing, sneezing, or straining.

5. Most root pains ("peripheral neuritis") associated with aching and soreness of the shoulder muscles and aggravated by motion of the neck are due to an osteoarthritis of the cervical vertebrae.

6. Every case presenting complaints of pain or limitation of motion in one or both shoulders warrants a thorough study of the cervical spine, particularly if enough local pathology has been found in the shoulder to account for the symptoms but where no response has been obtained to specific treatment to that shoulder.

7. No direct relationship has been found with regard to age, sex, race, body weight, type, or the general state of the patient's health.

8. Radiculitis can involve any group of nerve fibers contained in any nerve root—motor, sensory, or sympathetic—and the symptoms, unilateral or bilateral, may reflect evidence of irritation or loss of function, either partial or complete.

9. Chronic osteoarthritis of the cervical spine may at times have a bizarre onset and so should be kept in mind constantly as a possibility in the differential diagnosis of pains in the head, neck, chest, and upper extremities.

10. Chronic arthritis of the cervical spine is a frequent cause of a characteristic, occipital, early-morning headache (40 per cent of our cases). This condition can be diagnosed even in the absence of definite

x-ray findings and the proper therapy instituted.

11. Arthritis in the cervical spine can constitute an "irritation focus" for neuralgias of the cranial nerves and thereby explain such unusual symptoms as unilateral sore throat and earache not associated with local pathology.

12. Osteoarthritis of the cervical spine can cause precordial pain which, at first, may be indistinguishable from that due to organic heart disease, but a careful history and physical examination, together with electrocardiographic and x-ray studies, will serve to differentiate a radicular pain from that of visceral origin.

13. In the differential diagnosis of pain in the neck, shoulder, or upper extremity, great care must be exercised and a wide variety of conditions must be considered.

14. Hypertrophic changes in the cervical spine may be extensive and present for a considerable period of time without any x-ray evidence whatsoever of their presence. This fact has been proved by careful examination of gross specimens, as well as by clinical studies with serial x-ray pictures.

15. Many cases are completely relieved by physical therapy, salicylates, and large quantities of yeast, but some more resistant ones will need small doses of deep x-ray.

16. Roentgen therapy is an efficient aid in relieving pain. It reduces the inflammation that surrounds the nerve in its foramen and thereby relieves the pressure on the nerve root. Early cases are most amenable to treatment and comparatively small doses give the best results. In a few, the pain may persist even after this therapy, and traction with maintenance of hyperextension will be required before complete relief is effected.

133 East 58th Street

STATISTICS FROM ENGLAND

The marriage rate for 1940 in England was 30 per cent higher than prewar levels, according to the Metropolitan Life Insurance Company, but during the first six months of 1941 the birth rate in England's cities fell off 20 per cent. Infant mortality this year is high in England, because communicable diseases have been prevalent. Measles was abnormally prevalent in the first half of 1941 and whooping cough also. Diphtheria cases were increasing to a lesser extent. These conditions improved considerably during the summer, however, aside from the whooping cough situation.—*Medical World*

SLIP OF THE TONGUE

"The answer to the question of why intelligent, well-educated people misplace words would involve a long philosophic discussion of what are considered in the Freudian literature as 'slips of the tongue,'" *Hygeia, The Health Magazine* states in answer to an inquiry as to whether such "slips" are a remote sign of insanity. "There are many different types of slips," the article says, "some having rather obvious meanings, while others are obscure and little understood. Such 'slips' or the misplacement of words are common and bear no established relation to mental disease."

and contracted gallbladder rather than the distended one of empyema.

I believe the increasing jaundice indicated obstruction to the flow of bile—not common in empyema until well-developed cholangitis or hepatitis occurs. And if obstruction was the explanation of the jaundice, that frequent finding of common duct stone was the probable answer.

You will recall that Corvoisier pointed out to us half a century ago that obstruction of the common duct by stone is far more frequently associated with a small rather than with a large gallbladder. This assertion was predicated upon the belief that the stone was born in or occupied the gallbladder and there created the inflammatory process that resulted in fibrosis and contraction. The irregular mass in the right upper quadrant could readily be omentum, which we so frequently find adherent to or overlying a chronic gallbladder.

The weight loss, pointed out by Dr. Trubek, probably indicated diminished fat digestive ability. The coma was probably the result of cholemia, uremia, asthenia, and dehydration.

Time precludes further elaboration but, as my impression of this being a case of chronic cholecystitis with common duct stone has been challenged upon the assumption that such did not explain the pain, I should like to state that it is my impression that pain of variable radiation and intensity may occur in gallbladder disease regardless of the existence or nonexistence of stone.

DR. KENNETH M. LEWIS: I think that there are a few things about this case besides the obstructive signs. Why did the patient go into coma? Cholemia cases do not go into coma so rapidly. The blood nonprotein nitrogen was 60; the patient was in deep coma and was markedly dehydrated. The high red blood count, white blood count, and increased temperature could be accounted for by the marked dehydration. The blood nonprotein nitrogen before death had risen to 100. Whether this patient was in uremia, we do not know. That might have been another factor besides the gallbladder disease. Postoperatively, the patient received whole blood and plasma and continuous infusions of 5 per cent glucose in saline. Regardless of the above therapy the patient remained in coma. Because of the signs of obstruction (jaundice) the patient was a poor operative risk. The operation was performed under local anesthesia (field block). We thought that the patient had an

empyema of the gallbladder, but plastered over the gallbladder was the omentum and stomach. There were dense old adhesions. By careful dissection, a small contracted gallbladder was found with no evidence of acute inflammation. The mucosa was bile-stained. A tube was inserted into the gallbladder; cholecystostomy was performed to sidetrack the bile flow. The common duct was not exposed. Postoperatively, it was noted that the bile drained freely. A transfusion of 500 cc. of whole blood was given. Plasma and the infusions of 5 per cent glucose in saline were continued. The circulation was in a good state. The patient died thirty-six hours after operation.

Pathology

DR. MAX WILHELM JOHANNSEN: Necropsy was performed twenty-four hours after death. The relevant findings were as follows: Intense jaundice was noted over the entire skin. There were also present many ecchymotic areas. A recent right rectus operative incision held together by three retention sutures was found. The peritoneal cavity did not contain any fluid, but the greater omentum showed many recent adhesions in the proximity of the operative site and many old fibrous adhesions in the vicinity of the gallbladder bed. A rubber drain extended from the gallbladder bed into the operative wound of the anterior abdominal wall.

The liver, pancreas, stomach, and duodenum were removed in total. The portal vein and its tributaries were free of any pathology; the biliary ducts were isolated; the common duct was slightly dilated in its distal one-half; and in the midportion of the common duct, a large, round, rough calculus was found firmly impacted. This stone measured $1\frac{1}{2}$ cm. in diameter. Above this point of obstruction the common duct was dilated and led into the patent cystic duct, which, in turn, led into the markedly narrowed and shrunken gallbladder.

On sectioning, the liver itself showed, in addition to obvious bile staining, slight lobulation. The pancreas was natural. The lungs showed considerable gray-white granular patches, particularly marked in the lower lobes. The spleen was slightly larger than normal and mushy to the touch. Microscopically, there was revealed a slight biliary cirrhosis with mild acute cholangitis and many milary abscesses. The kidneys failed to reveal any pathology, either grossly or micro-

episodes of pain and the mass felt was exquisitely sensitive—it might have been distended gallbladder.

DR. HENRY C. FLEMING: What was the gradual loss of weight due to?

DR. ARTHUR L. WASHBURN: This case was one of gallstone with empyema of the gallbladder. There might have been coexisting neoplasms.

DR. BEECKMAN J. DELATOUR: We are dealing with an obstructive type of jaundice. I believe there was a degenerative change of the liver, there was some evidence of hepatitis. The patient gave a history of long-standing digestive disturbances. This underlying infectious process is borne out by the elevated white blood count and the temperature. The question of malignancy then arises, but there is tenderness in the region of the bladder only in the final stages of malignancy. Dr. Llewellys Barker of Johns Hopkins has stated that physical diagnosis of the abdomen is the most difficult. In malignancy of the gallbladder there is a low white blood count but an increased number of polymorphonuclear cells. That generally applies to carcinoma of the abdomen. There was a high total white blood count in this case. In cases of acute gallbladder disease it is important to operate before the jaundice sets in.

DR. ARNOLD KOFFLER: Operative procedure was indicated because of definite attacks of pain, evidence of obstruction, the mass in the upper part of the abdomen, and the high temperature. I do not feel that this patient had an empyema of the gallbladder. I feel that the patient had a common duct stone with obstruction.

DR. MAX TRUBEK: The attacks resembled those of biliary colic. The patient had been on a low fat diet for twenty years and, that, with old age, probably accounts for the weight loss. Pancreatitis should be considered as a differential in this case—also carcinoma of the pancreas. The acute cholangitis accounts for the septic state.

DR. HENRY C. FLEMING: What was the violent attack of pain due to?

DR. MAX TRUBEK: The pain was due to the stone either in the cystic duct or common duct. Carcinoma of the pancreas can give such colicky pain.

DR. MENNASCHE KALKSTEIN: The exact anatomic diagnosis cannot be made. In the presence of unexplained persistent jaundice that is not receding, operation is the only procedure and the sooner it is done the better.

DR. ELLIOTT HOCHSTEIN: Dr. Robert Zollinger, of Boston, in various experiments on the localization of pain in the gallbladder, has made the following observations: If the gallbladder is distended, there is a feeling of fullness in the epigastrium. Only when the common duct is involved do the patients get pain. If involvement is in the cystic duct, there is no pain.

DR. EMANUEL APPLEBAUM: I was impressed by the lack of discussion in regard to the preterminal coma. Patient had marked impairment of liver function. Clinically, that was impressive.

DR. ZACHARY SAGAL: The patient was well nourished; the weight loss was not significant. There was definite evidence of sepsis as evidenced by the high white blood count and the temperature elevation. The attacks of pain were those of gallbladder disease. Deep palpation could not be done as there was extreme tenderness in the right upper quadrant. The patient should have been operated on sooner. The fine points of diagnosis were taken too much into consideration. Surgery was indicated when the tentative diagnosis was made. I believe she had an empyema of the gallbladder.

Summation

DR. HENRY C. FLEMING: Significant features of this case were not only the tenderness in the right upper quadrant, believed by several to be due to empyema of the gallbladder, jaundice, elevated temperature, leukocytosis, bile in the urine, and positive van den Bergh, but also the long-standing digestive history, 35-pound weight loss, and five severe attacks of right upper quadrant pain with variable radiation to loin and shoulder, flatulence, nausea, etc. I believe these signs to be due to disease of the biliary system with probable liver involvement, but the correct label I believe is somewhat a matter of conjecture. I do not think, however, that the weight of evidence sustained a strong suspicion of empyema of the gallbladder, for I believe that the mass we felt in the right upper quadrant was of irregular surface and definitely corrugated yet not hard enough to suggest stone. It certainly was not the smooth, rounded viscus of a gallbladder; in fact, I first suspected the possibility of malignancy. And in this case we have a history of twenty years of digestive disturbances with at least five acute attacks of severe pain, etc. This suggests chronicity. And if this be correct we are probably dealing with a thickened, fibrosed,

Abstracts of Proceedings
of the
NEW YORK PATHOLOGICAL SOCIETY
REGULAR MEETING, DECEMBER 18, 1941

JEAN OLIVER, *President*
JOHN M. PEARCE, *Secretary*

A Case of Weber-Christian Disease. Dr. Robert Kritzer (*by invitation*)

Twenty-two cases of this condition, known also as relapsing febrile nodular nonsuppurative panniculitis, have been reported. Of the 2 deaths due apparently to this disease, this is the first in which an autopsy was performed.

A 34-year-old Jewish housewife was admitted several times to the Presbyterian Hospital for a twenty-nine-month-old illness, characterized by crops of enlarging and coalescing, variably tender, subcutaneous nodules in her thighs, buttocks, and later in her upper extremities; by fever of 101 to 103 F.; and by malaise and weakness. The panniculus adiposus underwent atrophy at the sites of old lesions. The skin over some was firm, red, scaly, and ulcerated terminally. The last weeks were marked by large numbers of new

skin lesions, by a temperature of 104 F., by delirium, and by chemical evidence of rapidly increasing liver damage.

At autopsy the essential features of the skin lesions previously described were found—namely, a nonsuppurative exudate in the panniculus, collapse of many of the fat cells, necrosis of the exudate, lipophagocytosis, and entry into the adipose cells of wandering phagocytes and lymphocytes, both in the exudate and within the adipose cells. Internal fat depots showed no striking changes. The liver was fatty; the spleen was enlarged. There were widespread acute necroses of the liver, chiefly central, and of the spleen. Fat emboli were found in the lungs, and many of the cells in the adrenal cortex showed hydropic degeneration.

A Case of "Temporal Arteritis." Dr. E. E. Sproul (*by invitation*)

A male American, aged 68, was under treatment for diabetes mellitus and for precordial pain, which was thought indicative of coronary stenosis. He suddenly developed severe throbbing pain in the temporal regions, with prominence and tenderness of both temporal arteries which subsequently lost their pulsations. A white count of 17,000 with 52 per cent polymorphonuclear neutrophils and a sedimentation rate of 116 mm. per hour were the only abnormal laboratory findings. His symptoms and physical signs referable to the head subsided during a period of eight weeks, but precordial pain recurred and he died as cardiac failure and lobular pneumonia supervened.

The outstanding findings on gross inspection of the organs were the infarcts of the myocardium associated with advanced coronary stenosis and an extensive organizing pneumonia with superimposed purulent bronchitis. The aorta appeared diffusely dilated and was inelastic. There was moderate intimal sclerosis, and a few areas showed fine longitudinal

wrinkling. The media was frequently thin and appeared to be extensively vascularized. The adventitia was delicate. All of the main branches were narrowed and showed medial discoloration with hemorrhage. The adventitia of the carotid arteries was thickened.

Histologic study revealed a profound change affecting the aorta, as well as the carotid, innominate, subclavian, pulmonary, celiac, mesenteric, renal, and iliac arteries. The cerebral arteries could not be examined. There was extensive caseous necrosis of the media with much nuclear fragmentation and disruption of fibers. At times, the degeneration was diffuse; in other areas, discrete and affecting only a portion of the wall. Usually, a cellular reaction including lymphocytes, plasma cells, and multinucleated giant cells was a prominent feature. The intima was frequently thickened by recently proliferated connective tissue. The adventitia showed minimal thickening and mononuclear cell in-

scopically, which might explain the elevated nonprotein nitrogen.

To summarize, this case was one of common duct stone leading to complete obstruction of the biliary outflow and in which an ascending cholangitis lead to the formation of miliary abscesses within the liver parenchyma. I heartily agree with Dr. Kalkstein who stated that surgery was the only type of treatment in a case with obstructive jaundice, regardless of what the clinical impression might have been. A few days ago an autopsy was done on a patient who was operated on for complete obstruction of the biliary tract with preoperative diagnosis of carcinoma of the head of the pancreas. Here, two stones were found to obstruct the biliary tract, one in the common duct and one in the hepatic duct. A year and one-half ago an autopsy was done on another patient who, five years before death, was operated on for what was thought to be carcinoma of the head of the pancreas. In this patient a cholecystogastrostomy was performed and the patient got well. At the time of operation this patient had complete obstructive jaundice caused by an interstitial pancreatitis and obviously not by carcinoma, otherwise he would not have survived for five

years. No evidence of carcinoma was found at necropsy. Interestingly enough, a cholecystogastrostomy was closed and the common duct emptied freely into the duodenum. The last case, I recall, was a patient in whom a cystic duct stone pressed on the hepatic duct and this caused obstruction. Again, there was obstruction with subsequent inflammation leading to severe jaundice. Again the diagnosis of carcinoma of the pancreas was made. Possibly, this man might have been saved if he had been operated on early.

Diagnosis

Choledocholithiasis with obstructive jaundice.

Biliary cirrhosis with mild acute cholangitis and focal abscess formation.

Organizing perihepatitis.

Mild atherosclerosis of mitral and aortic valve and aorta.

Lobular pneumonia.

Congestion and edema, both lungs.

Emphysema.

Pleural effusion—right.

Acute splenitis.

Recent right rectus incision.

Postoperative absence of appendix.

HEALTH EDUCATION LECTURES

A course of lecture conferences on the scientific foundation of health education has been arranged for the health educators of New York City by the Subcommittee on Scientific Sessions of the Health Education Section of the Welfare Council, New York. This subcommittee consists of Dr. Iago Galdston, New York Academy of Medicine, chairman, Miss Hazel Corbin, Maternity Center Association, Miss Lucy Gillett, Community Service Society.

The series consists of addresses by the following speakers:

DATE	NAME	SUBJECT
January 30	Dr. J.B. Youmans, assistant professor of medicine, Vanderbilt Medical School, Nashville, Tennessee	Nutrition and Health Education
February 26	Dr. John Romano, associate in medicine, Peter Bent Brigham Hospital, Boston	Mental Hygiene

DATE	NAME	SUBJECT
March 25	Dr. Bernhard J. Stern, Department of Sociology, Columbia University, New York City	Sociology
April 30	Mr. Philip Lennen, president, Lennen & Mitchell, New York City	Instrumentalities of Education and Propaganda
May 28	Dr. Perrin Long, Johns Hopkins University, Baltimore	Hygiene—Public Health

Health educators who are working in special fields will be given an opportunity to check and survey the broad field of medicine on which health education is founded.

The lecture conferences are being held at The New York Academy of Medicine, 2 East 103rd Street, New York City, from 3:30 to 5:00 P.M., and admission to the series of meetings may be procured by writing Dr. Iago Galdston, Health Education Section, Welfare Council, 44 East 23rd Street, New York City.

vated from the sputum. To date the disease has been diagnosed at autopsy in 31 cases, antemortem in 16 cases. In the antemortem cases the diagnosis was made by biopsy in 4 cases, by culture in 10 cases, and by microscopic examination of the blood in 2 cases.

Van Pernis, of Chicago, produced an antigen from a culture of the organism which gave a combined immediate and delayed skin reaction in his patient.

The geographic distribution of cases to date is as follows: United States, 35 (Maryland 1, Virginia 2, Florida 1, Alabama 1, Ohio 1, Michigan 8, Indiana 3, Illinois 2, Kentucky 2, Tennessee 6, Minnesota 1, Iowa 1, Missouri 3, Texas 1, California 2); Canal Zone, 3; Honduras, 1; Brazil, 3; Argentina, 2; Philippines, 2; Java, 1. Thus far, all cases have been in persons living in small towns or rural areas. The case in a dog was from Tennessee; that in a ferret was from Illinois.

The differential diagnosis of histoplasmosis from leishmaniasis is based upon the presence of a capsule and the absence of a blepharoplast in histoplasma and in the absence of a capsule and the presence of a blepharoplast in leishmania.

Histoplasma capsulatum exists in the yeast-like form in the warm-blooded host. Upon cultivation aerobically at room temperature, it develops a white cottony colony with aerial hyphae on which develop tuberculate chlamydospores; when cultured at 37 C. on blood agar sealed with paraffin, the yeastlike form develops. Conant has placed the organism in the family Moniliaceae of the fungi imperfecti.

Discussion

DR. JEAN OLIVER: I want to ask if there has been any connection established between these organisms from the mycologic standpoint with the Oidiomycetes group, the Oidium coccidioides, and so forth. I am thinking of this in particular because the latter shows mycelian form in the cultural growth but never in the tissues, which seems to be characteristic of this mold.

DR. HENRY E. MELENEY: I am not enough of a mycologist to know the classification of these organisms, but apparently it belongs to a different family from *O. coccidioides*. The appearance of the organism is somewhat the

same, but I believe there are definite differences in size, if not in structure.

DR. OLIVER: It is interesting that they both show these two types of growth in culture and in the tissues.

DR. FREDERICK SUMMERILL: Since Dr. Meleney mentioned that the nearest to this part of the country any case has been reported is Maryland, I should like to cite that last summer a veterinary physician autopsied a cat and brought the organs in formaldehyde to my laboratory in Middletown, New York, where sections were made. I found this organism in the mesenteric lymph nodes and in the lungs. There were ulcerations in the small intestines, markedly enlarged lymph nodes in the mesentery, and also peculiar inflammatory areas of a pseudocaseation distributed throughout both lungs. I later conferred with the Cornell University School for Veterinary Medicine, and they said that it was the first case of this kind affecting a cat as far as they were able to determine.

DR. MELENEY: That is interesting because it was in *The Cornell Veterinarian* that the case in a ferret was described.

DR. IRVING GRAEF: I wonder if Dr. Meleney will say a word about the portal of entry and the mode of transmission for human cases.

DR. MELENEY: Anything I say, of course, is speculative. I think this fungus must exist saprophytically in nature, although it has never been found. I think one portal of entry may be through an abrasion of the skin. It also undoubtedly enters through the mouth and may go through the respiratory tract to the lungs primarily or may cause local ulceration in the pharynx. There was 1 case at Vanderbilt University diagnosed as Hodgkin's disease which had an ulceration in the mouth. There have been several others, 1 with an apparently primary lesion in the nose, and 2 in which there were polypoid growths on the larynx. When swallowed, it may produce ulcers in the small or large intestine and may enter the mesenteric lymph or blood vessels, producing the systemic disease. The possibility of insect transmission should not be ignored. Some biting fly might transfer it, but we do not know anything about a reservoir host, and I think it is much more likely to be acquired by one of the other routes described above.

filtration. None of the vessels was thrombosed.

It was believed that the change resembled that described in the temporal arteries by Horton, *et al.* (Horton, B. T., Magath, T. B., and Brown, G. E.: *Proc. Staff Meet., Mayo Clinic* 7: 700, 1932) and designated as "temporal arteritis." About 24 cases in all have reached the literature, but in the majority of instances there has been complete remission of symptoms. Four cases in which necropsy was performed have recently been described (Gilmour, J. R.: *J. Path. & Bact.* 53: 263, 1941). The lesions were similar to those observed in this case.

Additional staining by the methods of Gram, Levaditi, and Brown, as well as carbol-fuchsin stains, failed to disclose an etiologic agent. There were no fungi or molds. This has also been true of the biopsy specimens reported and the few necropsied cases. All cultures, agglutination tests, and animal inoculations have been fruitless. The Wassermann and Kline tests were usually negative. The etiology of this extensive granulomatous change affecting the large arteries exclusively remains undisclosed.

Discussion

DR. ALFRED PLAUT: The rarity of this

disease warrants the reviewing of another case that lately came under observation. The clinical history was the usual one: the patient was a woman, aged 63, with a history of variegated pains for months and fever and lassitude for several weeks. No pulsation could be felt in the temporal arteries. This was easily explained by the sections which showed that the artery was entirely filled with a granulomatous structure leaving not the slightest remainder of a lumen. Giant cells were numerous, and only some of them could be explained as foreign body giant cells, formed under the stimulus of fragmentation of elastic lamellae.

While phlebitis is frequent and rather uniform in the histologic picture, arteritis is rare and reveals a multiplicity of pictures. In the last issue of the *English Journal of Pathology and Bacteriology* (Gilmour, J. R.: *J. Path. & Bact.* 53: 263, 1941), 4 cases of chronic giant-cell arteritis have been published. Granulomatous masses in these cases occupied parts of the aorta and its large branches, especially in the head. Mention should be made also of the case of arteritis published from the Pathology Department of Columbia University (Sproul, E. E., and Hawthorne, John J.: *Am. J. Path.* 13: 311, 1937).

Histoplasmosis. Dr. Henry E. Meleney (by invitation)

Histoplasmosis was discovered by Darling in Panama in 1906 when he was in search of cases of visceral leishmaniasis. He considered it to be a protozoan disease, but in 1912 Rocha-Lima established it as a fungus disease. It is essentially a disease of the reticuloendothelial cells, but differs from leishmaniasis in its tendency to produce tubercle-like necrotic lesions. Forty-seven human cases have now come to my attention; of these, 11 were discovered up to 1934, and the remainder were discovered or reported as follows: 6 in 1939, 16 in 1940, and 14 in 1941. In addition, 1 probable case was found in a ferret and 1 proved case in a dog. A review of the subject was published in 1940 (Meleney, H. E.: *Am. J. Trop. Med.* 20: 603-616).

The clinical types of the disease are (1) a generalized infection with parasites in the reticuloendothelial cells in all parts of the body; (2) a lymph node syndrome simulating aleukemic leukemia, Hodgkin's disease, or lymphosarcoma; (3) a skin disease manifested by single or multiple lesions; (4) pri-

mary infection of the nasopharynx or larynx with extension into the intestines or lungs or throughout the body; (5) a lung infection with or without further extension. The distribution of the parasites in the body depends upon the portal of entry and the extent of spread. Cases in infants often show no necrotic lesions. Some necrotic lesions simulating miliary tubercles, sometimes with giant cells but without epithelioid cell formation, are frequently found unassociated with parasites but probably represent true lesions of the disease. Tuberculosis, either of the lungs or with miliary spread, is frequently associated with the disease. A peculiar localization of the infection is in the adrenals, 3 cases having been found in which these organs were involved exclusively, with large caseous areas surrounded by many parasitized cells. Ulcers of the small and large intestines surrounded by parasitized cells have been described in several cases, with perforation of the ileum in 1 case. The prostate gland was involved in 1 case, and in 1 case the organism was culti-

Dr. Wilens whether he studied or used any other foreign substance, such as dye or India ink, injected into the animals that had these cuffs on the artery in order to see whether there was any localization other than of cholesterol.

DR. WILENS: I am sorry I did not attempt to do that, although I think it might be an important thing to try.

DR. MILTON HELPERN: I should like to ask whether the artery can dilate after the cuff is placed on it, or does the cuff prevent dilation? The inability of the artery to dilate because of the cuff would amount to a relative constriction of the vessel with an increase in the velocity of blood flow through it in systole.

DR. WILENS: I cannot state absolutely whether or not complete dilatation was possible. However, as I say, an attempt was

made to choose a cuff that was approximately equal to the size of the vessel in systole. I am sure a certain amount of pulsation occurred within the cuff, because we could actually see it after we put it on. In no instance was there thrombus formation; nor was the vessel occluded, which would have happened if there had been any great degree of constriction.

After the cuffs became enclosed in fibrous tissue the movements of the artery wall within the cuffs were probably restricted, but after all this was the main object of the experiment. I wish to emphasize again that no attempt was made to avoid injury to the artery wall at the site of application of the cuffs. I did, however, wish to produce an injury that was constant in all cases, so that any marked deviation in the amount of lipid deposited could be explained on some other basis.

HANDBOOK ON MEDICAL SERVICE PLANS

The Ohio State Medical Association has just issued a Medical Service Plans Handbook containing recommendations to its component societies "as to proper procedure for starting voluntary nonprofit medical care plans under the provision of the Ohio Enabling Act."

Procedures for the establishment of medical service plans are set forth. These are specific and complete. Included also is the resolution adopted by the House of Delegates relating to the Ohio Enabling Act and a copy of the Act itself.

A valuable feature of the handbook is the "must" and "optional" reading list. The list includes books and articles on medical economics from every point of view.

The handbook, which is being provided the president and secretary of each county society, shows the care and thought that have gone into its preparation. The Ohio State Medical Association is to be commended for a task well done.

—*Medical Annals of the District of Columbia*

THE NEW YORK TUBERCULOSIS AND HEALTH ASSOCIATION

... will hold its fortieth annual meeting on Monday, March 2, at the Hotel Pennsylvania, New York City, following its annual conference on tuberculosis, which will be held jointly with the Tuberculosis Sanatorium Conference of Metropolitan New York, beginning at 9:30 A.M.

Dr. Bruce H. Douglas, president of the National Tuberculosis Association, Dr. Charles J. Hatfield, president of the Philadelphia Tuberculosis and Health Council, and Dr. Edward S. McSweeney, chairman of the tuberculosis committee of the New York Tuberculosis and Health Association, will be the speakers at the luncheon meeting at which Dr. J. Burns Amberson, Jr., president of the New York Association will preside.

Tuberculosis and national defense will be discussed by Dr. Douglas, who is also Health Commissioner of Detroit, while Dr. Hatfield will speak on "Tuberculosis—Retrospect and Prospect." Dr. McSweeney will report on "Another Year of Tuberculosis Work."

NEW YORK SOCIETY FOR CLINICAL OPHTHALMOLOGY

The meeting on March 2 of the New York Society for Clinical Ophthalmology will consist of a panel discussion on "Disturbances of Ocular Motility" by Dr. George P. Guibor, Dr. Le Grand H. Hardy, Dr. Luther C. Peter, and Dr. James W. White. The coordinator will be Dr. Isadore Givner. The panel discussion will be

preceded by a paper on "Neuro-ophthalmologic Aspects of Eye Muscle Disorders" by Dr. Israel S. Wechsler.

The meeting will be held at the Squibb Hall, 745 Fifth Avenue, New York City, and all ophthalmologists are cordially invited to attend.

The Distribution of Intimal Atheromatous Lesions in the Arteries of Rabbits on High Cholesterol Diets. Dr. Sigmund L. Wilens (*by invitation*)

A new theory is advanced to account for the localized nature of lipid deposits in atheromatous lesions of arteries and for the tendency of such lesions to appear at fairly constant places, such as at points of bifurcation in the early stages of their development.

This theory expresses the belief that the accumulation of lipids at a focal point is not due to the excessive penetration of these materials into the intima directly from the blood stream at the site of the plaque but rather that they represent pooled deposits that are built up by the movement of lipids within the arterial intima as a whole to places at which their permanent arrest is favored. The impetus to this movement is believed to be imparted to the lipid droplets by the pulsation of the arterial wall. The direction of movement is believed to be from points of relatively great mobility to points of relative fixation or to points where impassable barriers are present such as the orifices of arterial branches.

By applying this theory it is possible to account for most of the observations that have been made as to the distribution of intimal plaques under different circumstances and at various age periods.

The following data are presented in support of this theory:

Intimal plaques are actually found at points of greatest fixation in the human aorta. These points represent areas that exhibited impaired elasticity early in adult life (Wilens, S. L.: *Am. J. Path.* 3: 811, 1927). The impairment of elasticity occurs regardless of whether or not intimal plaques are formed. The alteration in elasticity in itself is therefore not the cause of plaque formation.

Portions of the carotid and femoral arteries of rabbits were immobilized by having cylindrical silver cuffs applied to them. When the rabbits were subsequently fed cholesterol, lipids tended to accumulate selectively at the zones of immobilization. It was shown that this tendency was not the result of the local injury produced by the cuff alone, but rather that it was a measure of the total amount of lipid deposited in the artery as a whole. The occurrence of lipid-free zones at either side on the cuffed regions and the piling up of lipids against zones of intimal fibrous proliferation in the intima at the margins of the cuff were also features that were interpreted as favoring the theory advanced.

A fairly constant orientation of noncrystalline anisotropic lipid at the margins of natural human atheromatous lesions was observed. Reasons are advanced for believing that this type of lipid is composed largely of cholesterol esters and that it represents lipid that has been recently acquired by the plaques. The predominance of this lipid fraction at the periphery of the plaques is represented as the result of its convergence from the neighboring intimal tissues.

It is pointed out that substantiation of the theory advanced would suggest that the artery wall plays only a passive role in determining the ultimate disposition of intimal plaques. Furthermore, it would render it unnecessary to hypothecate that antecedent injury to the artery wall is necessary for localized deposits of lipid to form.

Discussion

DR. JEAN OLIVER: I have some recollection of experiments done by Klotz a great many years ago in which he put clamps on the aortas of rabbits. I think that it was perhaps before the time of cholesterol arteriosclerosis. As I remember, he got some sort of a lesion related to the clamp. I believe that his explanation was that the area where the clamp had been was one of stress and strain—which is, as you say, not specific in its analysis. Do you remember these experiments, and did he find collections of lipid?

DR. SIGMUND L. WILENS: There are innumerable experiments of that type, most of them antedating the cholesterol feeding era. Few claims have been made that by direct injury to the artery alone one can get much of an atheromatous lesion. Such lesions as are produced are generally devoid of lipids. I do not recall the specific paper you had in mind.

DR. JOSEPH VICTOR: I should like to ask whether there was any compression of the artery at the site of the clamping.

DR. WILENS: The clamps were made in various sizes from 1 to 5 mm. in diameter, and when the artery was exposed I did the best I could to pick one that was approximately the same as the external diameter of the clamp. I am confident that there were no marked degrees of compression and that the vessel, when opened at the time of sacrifice, did not show narrowing or constriction of the cuffed zone.

DR. CASPAR G. BURN: I should like to ask

industrial gas masks. The canister must contain (1) sorbents that will take out acid gases, such as phosgene and chlorine, and vapors, such as mustard gases and blister gases, and (2) an efficient filter for removing the irritating smokes. Previous to the use of masks, only gauze pads soaked with neutralizing chemicals and tied over the nose and mouth were used and, in the absence of masks, may have to be resorted to in case of attack.

In addition to needing masks for respiratory protection from gases, special clothing is needed by special service personnel such as firemen and others who may be required to remain in areas infested with blister gas or similar gases for duties such as decontamination work, fire fighting, and making utility repairs. These persons must be completely protected—no skin part can be exposed. Fabrics that are either impervious to the gas or are impregnated with substances that will take out the gas are available for clothing of this nature. These no doubt will be made available. Oilskin coveralls, oilskin gloves, and rubber boots are examples.

Special Treatment Center for the Chemical Warfare Casualties

A gas-cleansing center should be provided particularly for victims of blister or vesicant gases. Those suffering from lung irritants and other gases may be given emergency treatment at first-aid stations. A continuous-flow method of handling contaminated personnel has many advantages and permits the passage of personnel through a series of rooms or sections where they are cleansed and then evacuated from the opposite end in such a manner that no individual is subject to further contamination.

Liquid mustard gas contacting the skin quickly penetrates and persists unchanged in the tissues for many hours. This fact has a definite bearing on any attempts at the early treatment of mustard gas burns. The skin effects following exposure to the vapors of mustard gas are usually insidious and may be delayed for two or three hours and often longer. Then the eyes become reddened and the skin burns and itches, especially in the moist sweating areas. The skin lesions may vary from simple erythema to extreme blistering, deep necrosis, and sloughing. The skin lesions heal slowly and are frequently complicated by severe secondary infections.

Corneal ulceration may follow the initial conjunctivitis, and severe inflammation of the nasal and pharyngeal mucosa, larynx, trachea,

and bronchial tubes may result if the person has breathed in the gas. The bronchitis is accompanied by bronchopneumonia in a high percentage of cases. Nausea and vomiting, associated with epigastric pain, occur and may be persistent. Extreme nausea, vomiting, diarrhea, and collapse result from ingestion of contaminated food or liquids.

Since a delay of a minute or two in the case of liquid contamination with mustard gas or a delay of from ten to fifteen minutes following exposure to the vapors of mustard gas is serious, the speedy and complete removal of all contaminated clothing is essential. Decontamination of clothing may be accomplished by long exposure to windy air, by boiling, by chlorination, or by the action of bleaching powder.

After removing outer clothing, each individual should attempt to remove any liquid mustard gas from the skin by one of the following methods:

1. Thoroughly rubbing in, for one minute, either bleach ointment (ointment, antigas No. 1) or aqueous bleach paste over the affected area. This procedure chemically neutralizes the mustard gas.

2. Using ointment, antigas No. 2 (composed of chloramine-T in a vanishing cream base). It is used like ointment, antigas No. 1, but need not be wiped off.

3. Repeated swabbing of the contaminated area with kerosene, gasoline, or other solvent of liquid mustard gas. These do not destroy the gas but merely dissolve it; swabbing must be confined strictly to the contaminated area and must be repeated. Oilskin or rubber gloves must be used, or the swab should be only partly moistened with the solvent and should be held between the finger and the thumb by the dry portion, care being taken that none of the solvent runs over the skin. The process should be repeated for several minutes with fresh swabs or as long as the characteristic odor of the gas persists on the skin. Thorough washing with soap and water will complete the treatment.

4. Scrubbing with soap and water, using hard soap and frequent changes of water. This again merely removes the liquid in the lather; the scrubbing should, therefore, be confined to the contaminated area and the hands should be safeguarded, if possible, by suitable gloves.

If the liquid contamination is localized and of known saturation, this procedure is effective if carried out promptly. Vesication of the skin is usually prevented if the treatment is

Special Article

Through the courtesy of the Metropolitan Life Insurance Company it is possible for the JOURNAL to publish this Memorandum by Dr. McConnell for the information and handy reference of our members. The material herein is not altogether new, but its particular value in our opinion is that it is gathered together in one place from various sources and constitutes a handy text. It is particularly appropriate because there is not, to our knowledge, at present available a similar condensed text for the information of physicians and others who may, due to the hazards of war, have use for it. Every physician will be well advised to study carefully and to keep handy this short text for ready reference in case of need.—Editor

MEMORANDUM ON PROTECTIVE MEASURES AGAINST COMMON IMPLEMENTS OF WARFARE

W. J. McCONNELL, M.D., New York City

CIVILIAN defense measures against air-raid attacks must aim at prevention of panic and of large scale injuries and damage. Complete protection is not possible, but major catastrophe is to some extent preventable by the training of the population in orderly and disciplined behavior.

As far as can be determined, the efficient chemical warfare materials of England, France, Germany, Italy, and the United States are practically the same. The term gas in connection with warfare is loosely used but includes any chemical substance, solid, liquid, or gas, employed for its poisonous or irritant effect on the human body. War gases are classified generally according to their predominating effects, as: (1) lung irritants—phosgene, chlorine, chloropicrin; (2) vesicants or blister gases—mustard gas, lewisite; (3) sensory irritants (sneeze gases)—diphenylchlorarsine, diphenylcyanoarsine; (4) lachrymators (tear gases)—chloracetophenone, bromobenzyl cyanide, xylol bromide, bromoacetone; (5) direct poisons of the nervous system—hydrocyanic acid gas; (6) gases interfering with the respiratory function of the blood—carbon monoxide, arsine.

Gases may also be classified by their physical properties—especially by their vapor tension and their ability to remain in toxic amounts in any location subjected to their action—as persistent and nonpersistent. Phosgene and chlorine are examples of nonpersistent gases because they disperse in the air and are carried by the air currents. When the contaminated air becomes diluted or is carried away by the wind, the area is immediately habitable. Examples of persistent gases are

mustard and lewisite. Mustard gas is a liquid material that evaporates slowly and will persist for days or weeks in an area and on objects with which persons come into direct contact, thereby making the area uninhabitable unless decontamination procedures are effected. The other gases vary as to persistence. Generally, they are somewhat more persistent than the lung irritants but much less so than the vesicants. It should be kept in mind that gas attacks may consist of two or more types of gas and that while one may soon cease to be present in dangerous concentrations the other may persist for varying periods of time.

Our Chemical Warfare Service has expressed the opinion that "no agent is known which is more effective than mustard gas in sending victims to the hospital, and there is little evidence that a gas more effective than phosgene is available for poisoning the air."

So far, the implements to which civilians have been exposed the most in the present European war are high explosive and incendiary bombs. Gas bombs, high explosive bombs, or incendiary bombs might be used alone or might be used together. For example, mustard gas bombs may be used with high explosive and incendiaries in order to make rescue and fires more difficult to deal with or decontamination more difficult to carry on. Important among the hazards resulting from bombing are disruption of essential commodity and community services such as water, gas, electricity, and food supplies. Other influences are the loss of sleep, fatigue, noise, exposure to cold, sanitation, crowding, and contagious diseases.

Masks for protection of civilians are not difficult to make, since these are similar to

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pharynx may be used when mustard gas is inhaled. Steam inhalations are indicated for the resulting laryngitis and bronchitis. Bronchopneumonia is treated in the usual manner. Warm draughts of weak bicarbonate or other alkaline solution are indicated for alimentary tract.

It should be remembered that severe poisoning may result from ingestion of food and water that have been contaminated. Contaminated food must be destroyed.

Lewisite.—Lewisite produces lesions similar to those of mustard gas. Lewisite is an arsenical compound, and extensive burns caused by it may give rise to symptoms of arsenical poisoning. Its presence is appreciated at once, and the characteristic geranium smell is always found so a respirator may be used immediately. It is readily destroyed by chloride of lime and alkalis. The early treatment outlined for mustard gas is equally effective for lewisite burns. An effective aftertreatment is the application of a thick paste of ferric hydrate in glycerin. In cases where considerable quantities of lewisite are ingested, the additional use of ferric hydrate internally for its antidotal effect against arsenic has been recommended.

Lung Irritants

These gases exert their effects on the lung tissue, hence the necessity of immediate arrest of breathing, application of gas masks and, if possible, prompt retreat from the gassed area.

Essentially the same type of pathologic effect is caused by all lung irritants, the rate of onset and the degree of edema of the lungs being dependent on the particular gas and on its concentration and duration of exposure. The insidious nature of these gases makes it necessary to consider any gassed patient as in a serious condition. Complete rest for at least twenty-four hours should be insisted upon even though the patient feels recovered. Artificial respiration must not be given, since a gassed patient must be kept at absolute rest. Pulmonary edema is the most serious symptom to combat.

Phosgene.—Phosgene is representative of this group. Since it disperses rapidly, it is usually encountered in moderate or low concentrations. The chief advantage of phosgene and chlorine gas is military, since these gases corrode the metals of guns and equipment. However, they are extremely toxic to personnel if inhaled. After exposure to moderate concentrations, a person may feel

able to continue work for an hour or two with only minor symptoms, but he may then suddenly pass into extreme cyanosis (the blue type of asphyxia) and then into the gray stage of collapse (the so-called shock form or pallid type) and die within a few hours. The important acute changes caused by phosgene are practically limited to the lungs.

The essential difference is found in the amount of carbon dioxide in the blood. In blue cases the carbon dioxide is increased and the patient shows marked cyanosis with distention of the superficial veins. The gray cases have an abnormally low carbon dioxide content and present ashen facies, shallow accelerated respiration, and the rapid weak pulse of collapse.

Chlorine and Chloropicrin.—Chlorine is about one-tenth, and chloropicrin about one-half, as toxic as phosgene. They are, however, more irritating to the eyes and upper part of the respiratory tract. In acute poisoning the immediate effect is the production of lachrymation, violent coughing, intense sensation of suffocation, and pain throughout the air passages.

Treatment.—In acute cases rest, warmth, venesection, and oxygen are indicated. Every effort should be made to reduce the oxygen requirement by keeping the patient lying down. The possibility of sudden death and of aggravating pulmonary edema that has begun to subside should be remembered. Warmth will not only combat shock but will diminish any tendency to the muscular movements of shivering.

The important first-aid medical treatment consists of liberal oxygen inhalation. Victims should be transported in stretchers and provided with oxygen inhalation during transportation.

An early subcutaneous injection of 4 mg. of emetine hydrochloride or a dose of from 0.05 to 2 Gm. of ipecac in warm water, unless the victim's heart is weak or there is hypotension, has been recommended.

Venesection should be performed as early as possible in those cases developing pulmonary edema, for it helps to control the edema and at the same time relieves the distention of the right side of the heart. It should be remembered, however, that bleeding is *not* indicated in cases that have reached the gray stage of anoxemia. It may even aggravate the symptoms. Oxygen is always indicated in poisoning by lung irritants. If oxygen can be supplied, the patient's chance of recovery is greatly enhanced. Oxygen should be con-

not delayed beyond five minutes, though an erythema will probably result.

With gross contamination or after contamination with the vapor, the individual should pass through to the undressing room where all underclothing is removed and placed in suitable bins, after which the victim passes on into the cleansing room. To prevent spread of contamination between the undressing and cleansing rooms, an air lock or a room kept constantly decontaminated should be provided, and no person should pass to the cleansing room until completely undressed.

In the cleansing room, cases should bathe in bleach paste or solution, rubbing it well into the skin and then washing off the paste under a shower, care being taken to prevent the bleach from entering the eyes. If it does get into the eyes, it is removed by a cold-water eye douche.

After washing and drying themselves, all persons pass into the dressing room where they must reclothe themselves with clean clothing issued to them.

The clothing can be handled by giving each contaminated person a package of identification tags having a serial number. He places one of these tags on each article of clothing and equipment that he removes and leaves. When he leaves he signs a memorandum receipt for the clothes loaned to him and receives a receipt bearing the serial number of his identification tags for personal clothing and equipment he leaves behind. This receipt may inform him where and when to call for his personal property after it has been decontaminated. At that time he returns clothing that has been issued to him.

The building or section of building used as a gas-cleansing center should be splinterproof and gasproof and should be provided with suitable gastight air locks at its entrance and exit. The interior walls and floors of the cleansing area should be made of nonabsorbent material, such as finished concrete and glazed tile, which does not readily absorb vesicant gas and is easily decontaminated. The floor should have a drain for rapidly draining off contaminated water. Tables and chairs should be covered with oilcloth or other nonabsorbent material. Notices should be posted giving instructions at each stage of the process to prevent confusion.

It should be remembered that the physician and attendants in these areas should be protected against breathing the chemical agent and, in addition, protection should be given to the skin surfaces. The gas mask will protect

only against breathing the poison gas. Special oilskin gloves and oilskin clothing are needed. If possible, extra personnel should be in the area to take care of decontamination so that the physician, attendant, and patient need not be disturbed.

Materials Used

Bleaching powder is ordinary chloride of lime. The English recommend a "supertropical" bleach that is an ordinary bleaching powder stabilized by the addition of quicklime and fulfilling certain conditions of stability and chlorine content.

Bleach ointment (ointment, antigas No. 1) is made by mixing equal parts, by weight, of supertropical bleaching powder (bleaching powder, 30 per cent) and white petroleum jelly.

Aqueous bleach paste consists of supertropical bleaching powder mixed to a creamy consistency with water—roughly, one part of the powder to one or two parts of water by volume. The ointment keeps well, while the aqueous paste retains its effectiveness for several weeks if it is stored in enameled containers with well-fitting lids.

Ordinary bleaching powder is more irritating to the skin than the supertropical, but in the absence of the latter it is quite suitable for preventive treatment, provided it is not kept too long.

Ointment, antigas No. 2 is composed of chloramine-T in a vanishing cream base and is used like No. 1.

A saturated solution of sodium bicarbonate, applied freely and repeatedly, was commonly used during the last war, as was also Dakin's solution or aqueous solution of chloride of lime. These may be used in the absence of bleach powder.

Kerosene is probably the best solvent for the removal of mustard gas from the skin. Its disadvantage is the time required—namely, about thirty minutes. In its absence gasoline or alcohol may be used. The parts must always be thoroughly washed with soap and water after using these solvents.

A 2 per cent solution of sodium bicarbonate should be used to flush the eyes in case mustard vapor irritates them. Under no circumstances should they be bandaged. The nasal and pharyngeal mucous membrane should be irrigated with similar bicarbonate solution. Oil drops (codliver oil) following irrigation are recommended.

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Special Articles

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Dr. Condict W. Cutler, Jr., chief of the Emergency Medical Service, Manhattan, in co-operation with the Medical Society of the County of New York and The New York Academy of Medicine, arranged for this series of lectures recently given at the Academy—Editor

EMERGENCY CARE OF WOUNDS, HEMORRHAGE, AND SHOCK

L. M. THOMPSON, M.D., Washington, D. C.

ANY consideration of the first-aid care of wounds, hemorrhage, and shock by a physician in preparation for his presentation of the subject to laymen and women who wish instruction in first aid must start with the assumption that "admitting room first aid" and "roadside first aid" are entirely different things. First aid as most of us have been thinking of it and as we have practiced it in our offices or our hospitals with plenty of glass jars full of sterile gauze and sterile solutions, and with nurses standing about with gloves ready for us to slip on our clean hands—these things do not exist when a house crumples in a cloud of dust or when a car turns over on the highway. The layman must be taught how to handle all sorts of wounds with limited material, to keep his hands off in some cases, and to prevent fatal hemorrhage with his hands in other cases. In fact, it may almost be said that a layman must render first aid with his head and his hands and with those things he may get his hands on in the particular situation of each emergency. How then shall we go about teaching him these things?

You have already been told, I assume, that the control of hemorrhage, rendering artificial respiration, and the elimination of poisons take precedence over everything else in first aid.

In severe bleeding we must think first of pressure. With our hands we can usually control all severe bleeding almost instantly if we know the proper pressure points. This not only prevents the further loss of valuable blood and reduces shock, but it has an astonishing effect on the helpless bystanders. It gives you time to think what to do next. If you can step in and instantly put your fingers on the correct spot and stop that spurt of blood, then "the marines have landed and the situation is under control."

Where are these pressure points that work such miracles? There are six of them, located at spots where, by pressure with our fingers, we can compress the artery against a bone behind it and so shut off the blood to the head, neck, and extremities.

1. In front of the ear, for bleeding from the scalp and above the eyebrow.

2. At the side of the jaw, for bleeding of the face below the eyebrow.

3. At the side of the neck, for wounds of the neck and throat.

4. On the first rib behind the inner end of the collarbone, for bleeding of the shoulder and armpit.

5. Inside the upper arm, for bleeding of the arm below that point.

6. In the middle of the groin, for bleeding of the leg.

A tourniquet is rarely needed and in most cases should only be considered as an extra hand to apply pressure. Tourniquets must be released every 15 minutes to permit blood to circulate and prevent death of the part by gangrene.

We have no time to teach the layman the bacteriology of wound contamination and infection. But he knows the danger. He has probably seen an infected wound, and he knows what pus looks like. He wants to prevent contamination turning into infection. His lifelong habit has been to put something on that wound, either an antiseptic or something that grandfather said was good for cuts, and so the layman may have in mind a bread-and-milk poultice, turpentine, chewing tobacco, or something worse, depending on what part of the world grandfather came from.

So we have to teach him what to do for wounds, whether they are abrasions, incisions, lacerations, or punctures. In normal times, in a city of this size with plenty of hospitals and ambulances, we do not worry much about the larger injuries—those that are serious enough so that there is no doubt they will go

Assistant National Director, First Aid Service, American Red Cross.

tinued with only short rest periods until the symptoms of pulmonary edema have subsided and should be given intermittently for from twelve to twenty-four hours thereafter.

Further treatment should be carried on in hospitals where certain drug therapy may be indicated. The administration of 25 per cent gum-glucose solution and possibly urease solution, intravenously, has been found effective.

The first-aid treatment of the irritating effect on the eyes, nose, and throat consists of irrigating with a 2 per cent solution of bicarbonate of soda.

Sensory Irritants

The symptoms from exposure to this group of gases are immediate in onset and are quite characteristic; small quantities in the air cause burning pain in the eyes, nose, and throat, repeated sneezing, lachrymation, nausea, and sometimes vomiting. These symptoms pass away in from thirty minutes to two hours after pure air is reached. Since no organic lesions are produced, treatment, other than wearing the mask, consists in getting out of the atmosphere containing the gas. These gases are used chiefly for their harassing effect and to interfere with the use of the gas mask when used in combination with lung irritants. Generous lavage of the eyes, throat, and nose with a warm solution of from 1 to 2 per cent boric acid or sodium bicarbonate may be used in the aftertreatment of cases.

Lachrymators (Tear Gas).—These have an action similar to the sensory irritants but have a more severe effect upon the eyes. The mask, if properly applied, gives complete protection. Treatment consists of getting out of the gas atmosphere and irrigating the eyes with a saturated solution of boric acid, normal saline, or 2 per cent bicarbonate solution.

Hydrocyanic Acid.—This acid was tried in the last war but was soon discontinued because of the impossibility of obtaining lethal con-

centrations. Because of its extreme toxicity, its further development and use should be considered as a possibility.

Carbon Monoxide.—Carbon monoxide has never been used, but is frequently encountered, as an incident of warfare, since all explosives produce enormous quantities of this gas.

First aid in the case of exposure to these gases consists of exposure to the open air. If respiration is stopped, artificial respiration is indicated. After respiration is started, the inhalation of oxygen or oxygen in combination with carbon dioxide is the best remedy.

Arsine.—Although this gas has not been used, it is possible that it might be developed as a war gas because of the fact that it is heavier than air. It is somewhat unstable but is extremely toxic in fairly low concentrations. It is a hemolytic poison. Symptoms of poisoning usually appear a few hours after exposure to the gas and are manifested by faintness, giddiness, headache, weakness, pain in the abdomen, nausea, and vomiting. The toxic effect on the red blood cells is sometimes intense and severe anemia supervenes. The gas mask protects against arsine for short periods.

Treatment.—Treatment consists in removing the victim from the poisonous atmosphere and administering oxygen. Blood transfusions may be necessary to counteract the anemia. An ample supply of fluids should be given.

Where concealing smokes are employed, phosphorus burns may be encountered. Phosphorus adheres to the flesh or is buried in the subcutaneous tissue and continues to fume, occasionally bursting into flame again after being extinguished.

Treatment.—Protection from all air by means of water or oil is indicated. A 1 per cent solution of copper sulfate to form insoluble salts can also be used. The copper-coated phosphorus may then be removed by forceps or irrigation, and the burn may be treated like any other burn.

THE AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS

... and the American Industrial Hygiene Association will hold their joint Annual Convention in Cincinnati from April 13 to 17. The central purpose of the meeting will be to provide a five-day institute for the interchange and dissemination of information on new problems, as well as for the consideration of up-to-date meth-

ods of dealing with those that are well known. The industrial physicians have taken responsibility for the program of the first two and one-half days and the hygienists for the remainder of the five days, but most of the subjects chosen will be of interest not only to physicians but equally so to industrial engineers and executives.

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L. M. THOMPSON, M.D., Washington, D. C.

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Assistant National Director, First Aid Service, American Red Cross.

to a doctor or hospital. All we need to do is to protect them from further contamination, further injury, and shock. Probably the best thing we can do for them is to cover the wound with sterile gauze or the cleanest household linen available, try to prevent shock, and let the doctor do the rest.

But the wounds we worry about are the little wounds—the cuts, scratches, blisters, and splinters, so small that even though we tell the owner to go to see a doctor we know he will not do so. He doesn't think it necessary or he just hasn't the price. In an air raid he wants to find his family and salvage his valuables, or he may be unable to find a doctor for days even if he tries. These are the wounds that may give us the fatal infections, and these wounds should have the protection of mild tincture of iodine, especially on the surrounding skin. Allow the iodine to dry and apply a sterile dressing.

Even these minor wounds should, of course, be seen by a physician—no layman will do a second dressing. That is outside the field of first aid and is the sole responsibility of you doctors.

The use of the sulfonamide group of drugs is raising much attention at the present time. Since, however, their use is still under debate by the physicians, we do not feel that it is yet safe to put these strong drugs in the hands of laymen, and they should be used only under the supervision of a physician.

All wounds causing severe pain or hemorrhage will be accompanied by shock. In the field or along the roadside we cannot use the methods for shock prevention and treatment that you know in the hospital. Laymen do not understand hemoconcentration. They have never seen a shock bed. We can teach them, however, the fundamental principles of heat, position, and stimulants.

Heat may be applied with plenty of blankets, robes, or coats beneath, as well as above, the injured person. Artificial heat may be

given by the use of hot-water bottles, which must be improvised by the use of fruit jars or any empty bottles filled with hot water. Remember that automobile radiators are full of hot water and may be your only source of water for filling bottles on the roadside.

Elevate the feet and keep the head low. This may be done by the natural slope of the ground or by placing the feet on boxes, automobile seats and similar objects. If a stretcher or cot is available, raise the foot end 18 inches if necessary.

After the bleeding has been controlled, stimulants may be given such as sweetened hot tea or coffee. Remember that alcohol lowers the temperature by increased radiation and acts as an ultimate depressant and is not a good first-aid stimulant.

During transportation we must continue the shock treatment. Therefore, do not put these people in a car in a sitting position but keep them lying down and drive carefully to avoid additional accidents.

First aid, in order to be effective, must be given as promptly as possible after the accident. There is not time for trained medical units to arrive from a distance. The people at the site of the accident must know how to give first aid. Otherwise, they will probably do the wrong thing in an effort to help.

Therefore, the American Red Cross is training literally millions of people in the fundamental skills of first aid, including the control of bleeding, the immobilization of fractures with traction splints, artificial respiration for those who have stopped breathing, the care of burns, and the proper transportation of the injured.

You, as physicians, will be called upon to help instruct these classes. The public expects you to know these fundamental skills and to be able to present them so that laymen may understand and remember what to do and what not to do. Only with your assistance can we meet the present emergency.

EMERGENCY CARE AND TRANSPORTATION OF FRACTURE

ROBERT H. KENNEDY, M.D., New York City

WE ARE at war. There are three major reasons why every medical graduate should obtain instruction in first-aid care at this time. It is immaterial whether he is liable to be called into the armed forces or not.

Until recently, first-aid procedures were not taught in medical schools or hospitals. Even at the outbreak of war only a small percentage of medical schools gave any instruction in first aid. You and I know nothing about it except as we have been trained through the American Red Cross, the Boy Scouts, or the Girl Scouts. The Red Cross has issued over three million certificates to laymen after they completed their course and passed an examination in first aid. Many doctors have objected to laymen receiving this training. This is largely because they know nothing about what is taught and have not been sufficiently interested to investigate. Now we may need a great bulk of first aid applied by laymen, and it is important that we gain knowledge of and promote such training rather than decry it.

Second, many doctors are being called upon to teach first-aid classes. They have neither the background of first-aid knowledge nor the training in the proper approach to instructing a layman. Yet the Red Cross has a ruling that any doctor holding a license to practice in his state is to be given an instructor's rating on application. Before starting a class, each doctor should purchase an *American Red Cross First-Aid Textbook*⁴ from his local chapter and follow it in detail in his instruction. The book has gone through frequent editions for more than thirty years, with changes made according to the advice of progressive members of the profession. Not one of us would agree with everything in it any more than we would with any medical book we have ever used. But basically it is sound. Only by having everyone trained in the same manner can there be teamwork when disaster comes.

Third, any of us may be called upon to render first aid under civilian defense in our own home, apartment house, or in a casualty station. We must be ready to do justice to the victims.

Further, this training is of equal value in peace-time casualties which will always be with us. Remember that during all the

months of active bombing in England, there were more victims each month from motor-car accidents than there were from bombing raids.

The general principles² in the emergency care of all fractures are:

1. Combat any shock.
2. If suspicious that a fracture is present, render care as a fracture.
3. Avoid all unnecessary handling.
4. Protect any existing wound by the best means available.
5. Splint effectively, wherever found, before transporting.
6. Transport carefully.

The saving of life comes first; the saving of limb, second. If the patient is in shock, this demands treatment before anything is done for the injured limb. There is no use in splinting a limb carefully, while neglecting to treat shock from which the patient may be dying. On the other hand, traction on an extremity may be an effective means of combating shock. Morphine is the first and best treatment for shock. Sufficient morphine should be given to relieve pain and thereby relieve the patient's restlessness. The body heat must be maintained by sufficient extra covering and the use of external heat.

Bleeding should be stopped. It is rare that this cannot be done with a firm compression bandage. Tourniquets should not be used until compression of the wound has proved of no avail. Deaths from hemorrhage have been caused by an improperly applied tourniquet which allowed some arterial blood to enter the part and only shut off the venous return. It is common to see all bleeding stop as soon as a tourniquet is removed. If a tourniquet must be used, it should be loosened every half hour to allow blood to return to the part distal to the tourniquet. If a tourniquet is applied too tightly or for too long a period, gangrene, paralysis from nerve pressure, or lowered resistance to infection may result.

The patient should not be picked up hastily and dumped into the first automobile and rushed to a doctor's office or hospital. It is far better to cover him adequately and let him lie on the ground where he was found until splints can be put on and then move him in an ambulance. If it is necessary to change his position at all before splinting—in the

instance of an extremity fracture—continuous pull should be exerted by the hand on the injured part while he is being moved.

Fractures of the long bones of the extremities and of the spine exceed all other severe injuries in frequency and in the possibility of better results by proper emergency care and correct transportation. In major fractures the initial care given at the place of accident and the method of transportation influence the ultimate good or poor result. Death, permanent disability, loss of earning power, and dependence on the community may be the price of lack of attention to the necessary details of what should be done at this critical time. At the instant a long bone is broken, nature tries to protect the part from more injury. If there is any displacement, the muscles shorten and the fragments ride by one another, resulting in the only possible natural splinting. Such splinting is fairly effective while the part is at rest, but it does not offer sufficient protection when the patient is moved.

In any injury sufficient to break a bone, soft tissue damage is always present—muscles; blood vessels, small or large; even nerves or skin. This soft tissue damage is often more important than the fracture itself. Except in fractures by direct violence, such as an automobile wheel passing over a leg, the soft tissue damage results chiefly from the movement of displaced bone fragments. This movement is often slight at the moment of accident. But *beware* of the damage that occurs in trying to be helpful. Should the injured person be assisted to his feet or should an attempt be made to carry him even a few feet, the ends of the broken bone may be pulled by one another by muscular contraction, which results in overriding. As a result, the soft part damage is often made much more severe than in the original injury, since the bones churn about in muscle and other tissues. This increases shock and hemorrhage as well as the pain suffered by the injured, since these are based much more on soft part than on bony injury.

There is only one way to prevent this: Pull on the extremity sufficient to overcome the muscle pull on the broken strut. This pull is called "traction" and may be exerted perfectly well by hand. However, it is impossible to maintain a steady hand pull for any great distance or length of time. The amount of traction becomes irregular or jerky, causing more damage and shock each time it changes. To overcome this, splints were developed at

least seventy years ago by which a steady amount of traction could be exerted for as long as necessary. These are known as "traction-fixation splints." They were improved greatly during the War of 1914 to 1918, resulting in the Keller-Blake hinged halting ring splint for the lower extremity and the Murray-Jones hinged arm splint for the upper extremity. These are ideal when they can be obtained and applied before the injured person is moved at all. Efforts should be made to see that they are available wherever injuries are liable to occur. When these are not obtainable, excellent improvised methods of traction-fixation have been devised using materials at hand, such as forked sticks, brooms, mops, and ski poles, with triangular bandages, rope, etc., for exerting traction. A long side splint to the body and thigh never kept the fragments of the shaft of the femur from moving about and doing more damage to the soft parts, which increased shock and hemorrhage. Hand traction is much preferred to the long side splint, and traction-fixation is more effective than hand traction.

There are three types¹ of compound fractures. If a wound is present and there is no way of knowing whether the bone has been soiled, traction will protect the bone from coming out through the wound or spreading contamination in the soft parts by movement of the fragments. If the compound fracture has been produced by a possibly soiled object penetrating the extremity, traction will prevent the contamination from being spread farther in the soft parts. These are the two common types of compound fractures. Much more rarely, the end of the bone projects through the skin and gets dirty. The application of traction may draw this soiled bone back under the skin. These are extremely serious cases with regard to both life and limb. They all need to be operated on if they can possibly reach an operating room within six hours. This can usually be done in the United States. Application of traction-fixation is probably advisable. In such cases a message to the hospital should accompany the injured person explaining that the bone has projected. If it is practically certain that the injured cannot reach a properly equipped operating room in six hours, there is a question whether more contamination will occur from the bone disappearing under the skin with traction or from the churning about of the other fragment remaining under the skin without traction.

From the standpoint of the greatest good to

the greatest number, more harm is done by the omission of traction in the first two groups than is done by its application, with theoretic objections, in the third group. Light traction is never to be advised. There must be sufficient traction to overcome the pull of the muscles in all instances to be of any value.

"Splint 'em where they lie and splint 'em effectively."

In the lower extremity traction splints should be used for a possible fracture anywhere from hip joint to ankle joint and for large wounds involving muscle. The half ring rests against the tuber ischii as the upper point of traction-fixation and the foot is tied to the lower end of the splint as the lower point. In the upper extremity the splints are of advantage anywhere between the shoulder joint and the lower third of the forearm.

There are six requirements for the proper application of traction splints to the extremities.

1. There must be some adequate form of hitch, and it is necessary to protect the part beneath the hitch so that it will not be injured.

2. A traction hitch should be applied above the ankle or wrist.

3. There must be some means of increasing the traction so that the desired pull is obtained.

4. The extremity being in traction, it must be supported from below.

5. Lateral movement must be prevented.

6. The whole splint must be suspended in such manner that the heel will never be pressed upon.

It takes no more than one-half to one hour to learn to apply both the ready-made and the improvised splints. If the materials are at hand, the ready-made splints can be applied in three minutes. Any extra time required for the application of the improvised splints is only that needed to get the materials together. The simplicity of applying improvised splints under the most adverse circumstances makes lack of knowledge of this procedure inexcusable. Facility in application can be acquired only by practice, and its efficacy can be best appreciated by having splints applied to oneself.

In the event of air raids, we have no idea that these splints will be applied in a blazing building or when the walls are collapsing. But even air-raid wardens should know their value and the necessity of their application before any moving of a victim, unless he is in a position of the gravest immediate danger. Speed in reaching the first-

aid post or hospital before being properly splinted is a complete misconception.

Injuries to the spine form another group in which the knowledge of emergency care and transportation is of tremendous importance. While not as frequent as fractures of the long bones of the extremities, there are probably more instances of death and permanent disability as a result of the manner in which the victim was handled between the moment of injury and his arrival at a hospital. Many injured persons with broken spines had no paralysis before someone attempted to move them.

If the mechanism of injury is such that a fracture of the spine might have been produced, transport as a fracture, even though no objective signs are made out on examination. If a fracture of the spine might be present and the victim is unconscious, handle him as though his neck were broken.

If a patient³ complains of pain in his back, he may have a broken back. If he complains of pain in his neck, he may have broken his neck. Never lift an injured person or his head until he has told you whether he can move his legs or fingers. If he cannot move his legs, his back may be broken. If he cannot move his fingers, his neck may be broken. In both cases the spinal cord is injured. If you lift his head to give him a drink of water or if you fold him up to carry him, you may grind the injured spinal cord between parts of the broken spine and destroy any useful remnant of the spinal cord which may have escaped injury in the accident. Do not assist or allow the victim to sit up.

This same advice is fully as important when no evidence of cord injury is found but when, from the mechanism of injury, a fracture might be present. In one instance we have evidence of cord injury present, possibly permanent, and are trying to save anything which remains. In the other, we have no evidence of cord damage. How much more important it is to preserve that person from suffering any degree of permanent paralysis as a result of the method of moving, however well intentioned.

In fractures of the dorsal or lumbar spine the usual injury is a crushing of the body of the vertebra in flexion. The principle of hyperextension should therefore be carried out in transportation. Any of the ordinary lifts usually flex the spine and are to be avoided. When lying on one's back the lumbar curve is decreased; i.e., the tendency is toward flexion of the spine. Therefore, such an in-

instance of an extremity fracture—continuous pull should be exerted by the hand on the injured part while he is being moved.

Fractures of the long bones of the extremities and of the spine exceed all other severe injuries in frequency and in the possibility of better results by proper emergency care and correct transportation. In major fractures the initial care given at the place of accident and the method of transportation influence the ultimate good or poor result. Death, permanent disability, loss of earning power, and dependence on the community may be the price of lack of attention to the necessary details of what should be done at this critical time. At the instant a long bone is broken, nature tries to protect the part from more injury. If there is any displacement, the muscles shorten and the fragments ride by one another, resulting in the only possible natural splinting. Such splinting is fairly effective while the part is at rest, but it does not offer sufficient protection when the patient is moved.

In any injury sufficient to break a bone, soft tissue damage is always present—muscles; blood vessels, small or large; even nerves or skin. This soft tissue damage is often more important than the fracture itself. Except in fractures by direct violence, such as an automobile wheel passing over a leg, the soft tissue damage results chiefly from the movement of displaced bone fragments. This movement is often slight at the moment of accident. But *beware* of the damage that occurs in trying to be helpful. Should the injured person be assisted to his feet or should an attempt be made to carry him even a few feet, the ends of the broken bone may be pulled by one another by muscular contraction, which results in overriding. As a result, the soft part damage is often made much more severe than in the original injury, since the bones churn about in muscle and other tissues. This increases shock and hemorrhage as well as the pain suffered by the injured, since these are based much more on soft part than on bony injury.

There is only one way to prevent this: Pull on the extremity sufficient to overcome the muscle pull on the broken strut. This pull is called "traction" and may be exerted perfectly well by hand. However, it is impossible to maintain a steady hand pull for any great distance or length of time. The amount of traction becomes irregular or jerky, causing more damage and shock each time it changes. To overcome this, splints were developed at

least seventy years ago by which a steady amount of traction could be exerted for as long as necessary. These are known as "traction-fixation splints." They were improved greatly during the War of 1914 to 1918, resulting in the Keller-Blake hinged half ring splint for the lower extremity and the Murray-Jones hinged arm splint for the upper extremity. These are ideal when they can be obtained and applied before the injured person is moved at all. Efforts should be made to see that they are available wherever injuries are liable to occur. When these are not obtainable, excellent improvised methods of traction-fixation have been devised using materials at hand, such as forked sticks, brooms, mops, and ski poles, with triangular bandages, rope, etc., for exerting traction. A long side splint to the body and thigh never kept the fragments of the shaft of the femur from moving about and doing more damage to the soft parts, which increased shock and hemorrhage. Hand traction is much preferred to the long side splint, and traction-fixation is more effective than hand traction.

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From the standpoint of the greatest good to

EMERGENCY CARE OF ABDOMINAL INJURIES, HEAD AND CHEST INJURIES, AND BURNS

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THE present war has developed types of injuries which are not seen in civilian life and were rarely seen during the past World War.

I mention two of these conditions because, when seen shortly after injury, they may have no signs of external violence but they must be recognized and hospitalized.

These injuries occur during bombing raids and may affect all ages and both sexes. The injuries are: (1) *concussion or blast injuries* due to high explosive bombs, which create, first, a strong positive pressure wave of air and, second, a negative pressure wave of air; (2) *crush injuries*. Different methods of warfare either bring new problems or revive old problems in new disguise, and the crush injury may fall into either category. It is characterized by acute renal failure occurring in people who have been trapped under falling masonry.

The typical clinical picture is as follows: The patient has been buried for several hours and subjected to pressure. On admission, the general condition appears to be good. There may be no local injury but, when there is, local swelling, edema, and whealing, followed by bullous eruption of the skin and local anesthetic areas, appear. A few hours later, in spite of vasoconstriction as shown by pallor, coldness, and sweating, the blood pressure falls and the hemoglobin concentration rises. Later, the urinary output progressively diminishes and contains albumin and many dark brown casts. The patient is alternately drowsy and anxiously alert to the severity of his condition, and his blood pressure often remains raised. Edema, vomiting, and thirst then set in, the blood urea and potassium become increasingly high, and death in the bad cases generally occurs suddenly, usually about the seventh day. Autopsy shows a necrosis of muscle and degenerative changes in the renal tubules. This micro-pathology resembles that found in cases of incompatible blood transfusion, but occurs without transfusion. It is not clear how much lowered blood volume and diminished renal blood flow or catabolic products, produced by dead or dying tissues, have to do with it.

In discussing the subject of first aid in

abdominal injuries, head and chest injuries, and burns, one must, I believe, divide these subjects into, first, patients where evacuation can be immediately performed and, second, cases where it is impossible because of the size of the calamity to transport cases without considerable delay.

In this latter condition the physician on the scene becomes in reality a member of a first-aid casualty station. It is obvious that in the latter classification the physician may have time to do more than render the initial first aid. One may conceive a situation where a large number of injuries occur in a given area and where it is impossible to transport these cases immediately. In this instance the physician must do more than render first aid, and it is imperative that he place on the identification tag of the patient a brief summary of his findings, what preliminary diagnosis he has made, and what first-aid treatment he has given. This must be in addition to the marks on the forehead relative to any inoculation, etc. One may further conceive that when these patients come into an overcrowded hospital the notes made by the physician who rendered first aid will greatly assist an overworked and overrushed hospital crew. From his notes may be determined whether the patient should be immediately rushed to the operating room or whether it is safe to delay until the more desperately wounded are cared for.

In attempting to discuss first aid, therefore, I shall concentrate largely on this second group of cases, because you have been given full information on the initial treatment of shock and hemorrhage in the preceding article by Dr. Thompson.

Abdominal Injuries

Abdominal wounds may be, first, crushing injuries where there is no external break into the abdominal cavity—in this group come injuries to the solid organs and to the gastrointestinal tract; second, penetrating wounds, which may have either large or small perforations due to shell fragments; third, eviscerations, where the muscles of the abdominal cavity may have been widely lacerated, with protrusions of the abdominal viscera (such eviscerations may be with or without evident

jured person should not be moved face upward unless some object is placed beneath the lumbar spine to keep it in extension. It is difficult to accomplish this without undue movement of the victim's trunk. Therefore, when the back is broken, place a door, shutter, or other wide board beside the victim and, holding him at the shoulders and hips, roll him slowly and gently so that he rests on his abdomen with his face turned to one side. The trunk must be moved as a unit in turning him. In the face down position any flexion of the spine is practically impossible.

In case a door, etc., is not obtainable and the victim must be moved immediately from a point of danger (or to lift him to the regulation Army stretcher, which is several inches above the ground) the victim may be rolled in the same way onto a blanket, lying prone. This can be lifted or carried by grasping the blanket at the level of the shoulder above and knees or thighs below, producing a slight, but not marked, hyperextension. The victim should be lifted on a rigid support whenever possible.

A blanket lift should not be used in the instance of a possible broken neck. A door, plank, or shutter must be obtained which will extend at least 4 inches beyond the victim's head. It should not be less than 5 feet long and 15 inches wide.

If the victim is on his back, one person should kneel above the victim's head and, holding the head between two hands, steady it so that the head, neck, and shoulders move as a unit with the body without bending. One or more persons may then grasp the victim's clothing at the shoulders and hips and carefully slide the victim sideways onto the board or door, so that he stays *face upward* with arms at sides and *head, trunk, and extremities* on the board. *The head must not be raised or the neck bent forward or sideways.* The arms may then be folded over the chest

and held together by safety pins or bandage. Several straps or bandages should be placed around the victim and the board to hold the victim in place during transportation. No pillow should be placed under the head, but sweaters, clothing, or improvised small sand bags may be placed against the sides of the head to keep it from rolling to the side during transportation. The chin should be up. The board with the victim on it may then be lifted onto a blanket or a stretcher, and carried by two or more bearers.

If the victim with a broken neck is found lying face downward, a door or board should be placed beside him as described above, and the arm on that side extended above the head. The person kneeling at the head must firmly grasp the victim's head at the sides, the hands covering the ear and the angle of the jaw. Then, as the victim is rolled onto the board, his head must be steadied and kept in line with the body as he is turned to the *face up* position. Moderate traction may be exerted with the hands holding the head as the victim is rolled onto the board by one or more assistants kneeling at the side of the board. The head and trunk must be turned in unison. *Under no circumstances must the head be tilted forward or backward.*

The details of all these procedures are well described in the *American Red Cross First-Aid Textbook*. They cannot be appreciated without actual personal practice. Their value to the injured person cannot be overestimated. "Splint 'em where they lie" if you wish to save life and limb.

References

1. Kennedy, R. H.: *Health & Safety* 5: No. 6 (Dec) 1940.
2. Kennedy, R. H.: *Initial Care and Transportation in the Treatment of Fractures*, Scudder, C. L.: ed. 11. Philadelphia, W. B. Saunders Company, 1938.
3. Kennedy, R. H.: *Health & Safety* 3: No. 2 (April) 1938.
4. *American Red Cross First-Aid Textbook*, Reprint 1940, Philadelphia, Blakiston Company.

work upon blast concussion injuries, states as follows:

"In 40 per cent of the experimental animals examined there were hemorrhagic lesions in various abdominal organs; all these cases exhibited pulmonary hemorrhages; also the abdominal organs appear to be less sensitive to blast than the lungs. The organ most frequently damaged by blast in the abdomens of experimental animals is the large intestine; patches of hemorrhage may be found varying from punctate spots under the serous coat to large annular bands of hemorrhage and even rupture. The small bowel is less frequently affected, as is the stomach. The liver may be bruised or torn or the right lateral surface may be diversified by lines corresponding to the ribs. The spleen, kidney, and bladder are less often implicated. Blood clots have been found in the peritoneum, and retroperitoneal hematomas may be found as well.

"The direct effects of blast are experienced only when close to the explosion, but there are many indirect effects which may produce death or serious injury."

Further experimental technical descriptions of blast injuries will be given under the heading "Injuries of the Chest."

In presumed abdominal injuries it is advisable to give nothing by mouth, since one does not know whether or not there may be perforation of a hollow viscus. This dictum should be carried out even with regard to alcohol.

The treatment of nonpenetrating abdominal wounds, if transportation can be readily provided, is simple; morphine for the initial shock is all that is necessary for these cases. If, however, it is obvious that transportation will be delayed, the doctor's initial examination and diagnosis may aid tremendously in the later treatment of this patient when he arrives at the hospital. If space and time permits, the clothing should be freed enough to allow a careful physical examination, care being taken not to increase shock. If there is no external wound, what are we to consider in our diagnosis of abdominal injuries? Beginning at the upper abdomen I shall enumerate the most common injuries and some of the clinical signs that one should be able to determine in a so-called casualty clearing station.

Rupture of the Diaphragm.—This is an often overlooked lesion that occurs from the result of an injury creating an increased abdominal pressure. Gatsch reported 6 cases within two years which he had operated on. In all of

these cases the tear in the diaphragm extended outward and slightly backward from the esophageal hiatus. All of these patients were injured in automobile accidents, and he believes the tear was caused by the sudden great increase in intra-abdominal pressure due to a forward flexion of the body when the diaphragm and muscles of the abdominal wall were too strongly contracted. Unfortunately, the physical signs in these injuries are not well classified, and one could only make a presumptive diagnosis from cyanosis, diminished respiratory action, and splinting of the muscles in the upper part of the abdomen.

Rupture of the Spleen.—Inspection may reveal swelling or absence of respiratory motion in the left upper quadrant. On palpation, tenderness and a sense of fullness can frequently be detected and, on percussion, gastric tympany will be obliterated and a dull note heard in the lower left part of the chest posteriorly and in the axilla. As an aid to diagnosis in splenic injuries, Max Saegesser, of Berne, notes that there is a point of extreme tenderness when finger pressure is made in the supraclavicular area between the sternomastoid and scalenus anticus muscles. In all the injuries seen by him, pressure started up violent pain, as contrasted with the absence of pain on the right side. He believes the cause of this is that sensory branches from the splenic capsule run upward in the left phrenic nerve.

Rupture of the Liver.—Local tenderness below the right costal margin, increased liver dullness, and evidence of hemorrhage are the most common signs.

Rupture of the Stomach.—This is rare and, therefore, cannot often be diagnosed at first aid.

Rupture of the Duodenum.—This is a quite common injury. It occurs in 10 per cent of all the ruptures of the hollow viscus. A rupture of the retroperitoneal portion of the duodenum occurs in 30 to 35 per cent of the above group. In the retroperitoneal ruptures Butler and Carlson have pointed out that pain in the testicle is a symptom due to the irritation of the sympathetic nerves. Some time later, if the rupture is retroperitoneal, crepitation may be felt in the right lumbar muscles.

Perforations of the intestines, either large or small, are created by two types of physical injury—first, crushing of the viscus against the spine, causing a direct rupture and, second, sudden increase in intraluminary pressure created by the trauma, which causes a blow-out perforation as one sees in an automobile

intestinal perforations); and fourth, compression injuries to the bladder and kidney.

One may lay down certain general principles in treating abdominal injuries, such as care in moving a patient. Each transportation of a patient with an injured abdominal viscus increases the danger of shock and hemorrhage. Moving a patient from one room to another, or from one side of a street to another, and then removing him is dangerous. It is up to the physician, therefore, to attempt to use his judgment as to where the patient should be moved from the site of injury until transportation can be provided. Where there are lacerated wounds one must consider that each wound goes through two stages. The first stage is during the first six hours after injury, where there is contamination without much bacterial multiplication, and, second, after six hours, when bacterial multiplication and dissemination takes place. If it is obvious that immediate transportation cannot be done, the use of sulfathiazole, which is provided in the emergency kits from the hospitals, should be instituted as a first-aid dressing. However, as sulfathiazole is limited in all first-aid boxes, one must use keen judgment to apply it only in the necessary cases.

Mr. Broster, of London, England, states that the abdominal injuries in the present war are much less than in the previous war. He states that in this war only 2 per cent were wounded, with a high mortality rate, and he quotes from Rear Admiral Gordon Taylor as follows:

"So far in this present conflict, the abdominal surgery of warfare has seemed conspicuous by its absence rather than its frequency. The paucity of the lesions of the belly produced by enemy action, which are not beyond all surgical aid, must have impressed those observers whose sphere of surgical action in the Franco-British Casualty Clearing Zone twenty-odd years ago furnished them with an abundant experience of operative aid for those soldiers who were suffering from wounds in the abdominal area. In the past twenty months during which the writer has had the fortune to make official contacts with hospitals along a considerable length of our coastline and some of the corresponding hinterland, the numerical disparity between the operations performed for abdominal injuries by one surgeon on the British front in France a quarter of a century ago and the total aggregate attained in this campaign by many operators, mostly working in England, has been impressive.

"The severity and frequency of crush injuries of the trunk, including the abdomen, has been a feature of casualties on the Home Front. Nonpenetrating injuries of the abdomen and its contents played a relatively small part in the abdominal surgery of the last war; this time civilians, women and children of tender years and even the unborn babe, are suffering crush contusions from falling masonry and from burial under collapsed houses and dwellings. Fragments or masses of wood, stone, or metal may be confusedly hurled with devastating force against the abdomen; severe visceral damage or retroperitoneal hemorrhage may be produced by 'blast' without any external evidence of injury. The abdominal parietes may suffer along with the subjacent organs, and effusions of blood may be encountered in any of the layers superficial to the peritoneum. Actual rupture of the abdominal musculature along with visceral injury was infrequent in the last war; the blow that ruptured the powerful abdominal muscles became too spent to damage the intestinal tract. The increase of destructive force nowadays destroys and damages without fine anatomical distinction.

"Multiplicity characterizes the wounds and damage sustained from air bombardment; not only is the mortality raised by lesions of many viscera but many, even most, of the regions of the body may be simultaneously damaged. The bespattered trunk and limbs in those who have been wounded by high explosives were familiar to the surgeons in the last war, but the phenomenon is far more frequent in this conflict, and the severity of the concomitant injuries renders the prognosis of many an abdominal case hopeless.

"Some of those injured in the abdomen may also suffer burns of the body or limbs. This complication of abdominal injuries may be encountered in ships or on shore; the prognosis will obviously become far more grave in such cases.

"The degree of shock encountered among the casualties of this war far transcends that with which surgeons became familiar between 1914 and 1918. Despite the elaborate and highly organized resources of our transfusion services, despite the transfusion of many pints of blood or plasma, despite the administration of oxygen and all the resources of resuscitation therapy many of those wounded in the trunk remain in a condition of shock which precludes all thought of surgical interference."

Broster, in reporting upon the experimental

"(2) *Provision of Adequate Respiratory Airway.*—Loss of bone and muscle attachment frequently results in loss of control of the tongue with danger to respiration. This is best controlled by use of a long suture through the tip of the tongue. It should be long enough to draw the tongue forward and may be attached to the dressing or clothing. If a needle and suture are not available, the tip of the tongue may be transfixed with a large safety pin. A piece of gauze or bandage may be attached to the tongue suture or safety pin for traction to improve and clear the air passage. These considerations are particularly important if the patient is unconscious. In other cases, due to swelling of the soft tissues, sufficient airway can be provided by insertion of a rubber tube through the nose or the mouth to the nasopharynx. If these means are not adequate, tracheal puncture through the skin with a special trocar will usually save the situation. It is expected that these tracheal trocars will be added to the emergency kit. Tracheotomy should be considered only as a last resort, since it is followed by a high mortality in cases of this type.

"(3) *Temporary Approximate Reduction and Fixation of Bone Fragments of the Maxilla.*—Intelligent application of emergency treatment reduces the period of hospitalization and assures far greater success in subsequent treatment with a minimum of deformity. Early treatment should be such as to assure every chance for the restoration of the original occlusion of the teeth or the restoration of the function of mastication, even in those cases with considerable loss of bone. It is particularly important that the collapse of bone segments be avoided. In order to minimize infections, early cleaning of the wound is essential, and tooth fragments, foreign matter, completely detached particles of bone, etc., should be removed. Bone fragments which have attachment of the soft tissues should be allowed to remain, as they frequently keep their vitality and aid in restoring the continuity of bone. Reduction of fragments by manipulation and temporary fixation by simple measures, such as bandages and elastic traction, should be done, if possible, at this time.

"Fractures of the superior maxilla frequently displace the loose structures downward and backward and definitely interfere with respiration. In case of a bilateral comminuted fracture of the posterior part of the mandible, the anterior part of the jaw may

drop backward and likewise cause serious interference with respiration. In a case of this kind, the front of the jaw may be held forward by a simple emergency splint developed at the Walter Reed Hospital and found practical in several cases. The only articles required are three or four wooden tongue depressors, adhesive plaster, a 2-inch bandage, and the ligature wire supplied with the emergency maxillofacial kit. Two tongue depressors are placed end-to-end and fastened by a third overlapping them in the middle with adhesive plaster. This piece is secured in a vertical position with a bandage passed around the head in the frontal region, with the lower end extending in front of the chin. A wire is passed around the lower teeth or around the chin segment of the mandible and the ends of the wire are fastened to the lower end of the tongue depressor piece. The spring of this will effectually draw and keep the anterior segment of the mandible forward. In the case of backward displacement of the upper jaw, forward traction can likewise be made by attachment of the upper front teeth to this apparatus.

"(4) *Provision of Safe Transportation from the Combat Zone to Hospitals in the Rear.*—Transportation or evacuation from the combat zone places a certain responsibility on the medical department units, for casualties must be prepared for safe, unattended travel by ambulance. Aside from problems of sedation and prevention of shock, special considerations apply to face and jaw injuries. Lessons in past wars are convincing proof that ambulant or semiambulant cases with oral or pharyngeal wounds should sit up during evacuation. If he must be recumbent, the patient should be placed face down if there is any danger of obstruction in the air passages. These precautions lessen the mortality rate of jaw injuries during evacuation."

Dr. James Barrett Brown said in discussion of the foregoing article: "To get the jaw forward quickly, I use a fishhook with the barb cut off and stick it under the chin. It is pulled forward quite easily that way."

Chest Injuries

I am indebted to Frank Berry, of New York, for what I shall say on first-aid treatment of wounds of the chest. I should recommend that all of you read his entire article, parts of which I have copied verbatim. This article on "The Treatment of Injuries of the Chest" was published in the *American Journal of Surgery*, October 1, 1941.

ture. Definite localized pain, diminished liver dullness, and signs of peritonitis as evidenced by rigidity and shock are the most prominent diagnostic points. If there are bladder injuries, as far as first aid is concerned, the examination of the urine after the patient had voided is an indication that there may be bladder rupture. The observation of gross blood in the urine should be noted on the card attached to the patient and should be heavily underscored, since such injuries need immediate operation.

Penetrating Wounds.—Storck, in an article on "Penetrating Wounds of the Abdomen," published in the *Annals of Surgery* of May, 1940, says: "Eisberg stresses the importance of the study of the entrance and exit points, and he cites that bullet wounds of entrance are usually smaller than the caliber of the bullet, while the point of exit is more or less keyhole in shape and larger than the wound of entrance. He also draws attention to the fact that 'if an area of abrasion and contusion of the skin is concentric, it signifies that the bullet has taken a straight course and that the underlying viscera in this region are, in all probability, injured; if the area is to the right of the edge of the wound, it signifies that the missile has passed from right to left. Since the opposite side of this area is always undermined and this process, in turn, increases with the obliquity, the more superficial the bullet tract, the larger the area of abrasion and contusion and the greater the undermining. This observation is very important in differentiating superficial nonpenetrating wounds of the abdomen which cross the abdomen, causing pain and at times nausea, vomiting, tenderness, and rigidity.'"

If there are only wounds of entrance of small caliber, little first aid can be given except the noting, perhaps, of the assumed direction of the wound of entrance and the abdominal signs on examination. It is presumable that large eventations might occur. In this case it is advisable not to use iodine as a first-aid measure, since it is more apt to traumatize the peritoneum of the viscera. If one is positive that there is no perforation and if the intestines are on the abdomen, the doctor could apply sulfathiazole, replace the abdominal viscera, and tightly strap the abdomen, making note on the identification tag of the procedure. One must be sure, however, that there is no perforation of intestines that are protruding. If they are protruding and there is evidence of perforation, sulfathiazole should be applied

and the wound covered with a first-aid dressing.

If there is extensive bleeding from the abdomen one should observe whether or not this comes from the abdominal wall. If it does not, tight strapping of the abdomen in order to allow tamponade without interference with respiration is advisable.

Head Injuries

There is little one can do as far as scalp injuries are concerned unless there is massive scalp laceration. In such a case, control of bleeding, by ligature or clamp if necessary, is advisable. If the flaps can be easily raised it is advisable to observe whether or not there is fracture of the skull and whether or not the fracture is depressed. Sulfathiazole inserted beneath the scalp and the wound drawn gently over the defect, with a pressure bandage to prevent further hemorrhage, are justified.

Ivy and Stout have presented an excellent article on "The Emergency Treatment of the Face and Jaw," and I quote from them verbatim:

"The points demanding special attention in the combat area may be formulated as follows: (1) arrest of hemorrhage, (2) provision of adequate respiratory airway, (3) temporary approximate reduction and fixation of bone fragments, and (4) provision of safe transportation from the combat zone to hospital in the rear.

"(1) *Arrest of Hemorrhage.*—It may be possible to check hemorrhage temporarily by digital pressure over the artery proximal to the bleeding area. The principal points of compression about the head and neck are: external carotid artery—beneath anterior border of sternomastoid muscle just above level of thyroid cartilage; facial or external maxillary artery—lower border of mandible $\frac{3}{4}$ inch in front of angle; superficial temporary artery—just in front of the tragus of ear. Moderate hemorrhage from a wound about the jaw can usually be checked by pressure from a gauze pack inserted in the wound and held in place by a four-tailed bandage. Care must be exercised in the application of the pack and the bandage so as not to increase any respiratory difficulty occasioned by the nature of the wound itself. Hemorrhage that cannot be checked in this way demands a search for the bleeding vessel and an application of a clamp to it, followed by ligation if ligature material is available; otherwise, the clamp should be left on during transportation to the advanced hospital.

70 per cent of all chest wounds are complicated by hemothorax.

"Frequently, it occurs following crushing injuries of the chest with simple rib fractures and almost always it accompanies penetrating gunshot wounds and then may be called a 'compound' hemothorax.

"A compound hemothorax with small clean wounds of entrance and exit, as from rifle or machine gun bullets, and small penetrating shrapnel fragments or stab wounds should be treated like a simple closed pneumothorax. The important principle of therapy is aspiration with air replacement."

Nonpenetrating Wounds

"Nonpenetrating wounds of the chest may vary in extent from slight contusion of the chest wall to extensive crushing with multiple rib fractures and tear of the underlying lungs. Such injuries are common among persons buried in debris, in aviation accidents, and in sudden crushing injuries as when the victim is caught between a truck and a wall.

"Flying objects with violent impact on the chest wall may cause serious hemorrhage and laceration in the lung directly beneath the blow. Following a severe crushing of the chest there may be multiple rib fractures, which Barrett calls the 'stove-in' type. These injuries may be complicated by a traumatic asphyxia or an acute dilatation of the stomach with inability to get rid of the vomitus, which in turn favors the development of pneumonia and pulmonary suppuration. In this compression asphyxia the lesions may be symmetrical in both lungs with generalized congestion, some edema, and small subpleural hemorrhage and sometimes emphysema along the line of the ribs; or there may be laceration or fracture of the trachea, bronchi, or lungs."

Blast Injuries

"In the English literature considerable attention has been given to the blast injury or concussion and cases have been reported in detail by Dean and Thomas, Falla, Fallon, and Hadfield and Christie. The first experimental work was reported in 1924 by Hooker, who said that bruising and rupture of the lungs 'were the single gross lesions found postmortem after exposure to air concussion due to gun blast or high explosive.' Blast produces a sudden marked fall of arterial and venous pressures and a later washing out of venous carbon dioxide. Since the onset of the present war further studies have been made under the direction of the Home Office

by Bancroft with goats, and by Zuckerman with mice, pigeons, guinea pigs, rabbits, and monkeys.

"Zuckerman's work is of sufficient interest to report in detail. He used a 70-pound charge of high explosive and first explains the physics of a blast. Blast consists of two waves: a compression wave that lasts 0.006 seconds and a suction wave of 0.03 seconds. All pressures are, of course, in excess of the normal atmospheric pressure of 15 pounds per square inch. The blast wave consists of a shell of compressed gas increasing very rapidly in radius—1,500 feet a second at 30 feet for a 60-pound charge. There is an additional wind pressure exerted by this shell of gas *only* in the direction of its motion; hence, any surface not directly in its path is subject just to the compression wave. This wave of pressure is highest in the region of the explosion and falls rapidly. At 15 feet from a 125-pound charge the compression wave carries a pressure of 200 pounds. Close to the explosion the wind pressure may be as great as the pressure of the charge itself, but it falls more quickly with distance. Thus, everything in the immediate neighborhood of a big bomb is suddenly exposed to a wave of many times the atmospheric pressure, whereas at 50 feet this will be only two or three atmospheres and at 100 feet only a fraction of an atmosphere. The velocity and duration of the pressure wave is such that a human body will be completely immersed in it. The suction wave is much weaker and can never exceed 15 pounds per square inch, which is a perfect vacuum. The magnitude of the pressure and suction vary directly with the amount of explosive. If an object is not blown apart by the wind and compression waves, it may then be attracted to the center of the explosion by the weaker and longer suction wave.

"If the victim of a bomb explosion is not blown apart he may be injured in three ways: (1) by being hit by masonry, fragments, or flying objects; (2) by being violently thrown; or (3) by the effect of the blast wave without being thrown. This last is the true blast injury or concussion in which there is no sign of any external injury, and even in this group Roberts warns of confusion with carbon monoxide poisoning.

"In his work with animals with the 70-pound blast Zuckerman found that no animal died that was more than 18 feet from the explosion and none more than 50 feet distant was injured. Furthermore, there was no sign of external injury in any of the animals

"At the December, 1941, meeting of the Royal Society of Medicine, Mr. Thomas in his discussion quoted Hoche's review of 11,000,000 English, French, American, and German wounded."

Distribution of Wounds

	Percentage
Limbs	68
Head, face, neck	15
Spine and cord	4
Pelvis	4
Thorax	6
Abdomen	4

Mortality in Above Series

	Percentage
Total mortality	8
Wounds of abdomen	68
Wounds of thorax	56

Wound Distribution Among 12,350 Killed

	Percentage
Head	47
Thorax	20
Abdomen and pelvis	11.8
Limbs	9.9

"The high immediate and late mortality of wounds in the thorax is evident from the above tables. Patients with injuries of the chest suffer from the same shock, hemorrhage, and sepsis as those with wounds elsewhere, *plus* special factors which interfere with their respiratory and cardiorespiratory function and reserve. These are: (1) air and blood in one or both pleural cavities, frequently under increasing tension; (2) open pneumothorax with lung collapse, mediastinal flutter, paradoxical respiration with swing of the intrapulmonary air from one lung to the other and loss of the aspiratory effect on the great veins with decreased cardiac output; (3) cardiac tamponade; and (4) surgical emphysema, sometimes progressive. All of these features become accentuated in older people and in those with existing lung or heart pathology."

General Treatment of Injuries

"Before taking up specific types of wounds certain basic factors of treatment should be understood. First, almost all patients with wounds of the thorax suffer from shock and some also from hemorrhage. If there is a sucking wound present, this should be promptly sealed with a sterile pad strapped snugly in place or, if this is not available, with anything at hand. Hemorrhage from intercostal vessels or the parietes may be temporarily controlled by a mushroom type

of pack which is inserted into the wound and pulled outward, thus exerting pressure from the inside. The Shaeffer method of artificial respiration should be used with care, as the manipulation may cause further injury to the chest wall or lungs. The legs should be elevated to combat shock and the patient transported in the Trendelenberg position unless it is evident that this causes respiratory embarrassment, in which case the stretcher should be slightly elevated.

"Morphine should be used as needed to allay pain and fear. It should not be given in such dosage as will depress respiration or productive cough, however, for the maintenance of good pulmonary ventilation and the ability to cough up secretions is essential. In the case of rib fractures, particularly when they are multiple, injections of 2 to 5 per cent novocaine into the intercostal nerves paravertebrally or at the site of fracture are most effective and may be repeated as necessary." (Strapping is advisable if only one side of the thorax is involved.)

"Not infrequently the abdomen is held rigidly in wounds of the lower chest and, here, the decision must be made as to whether or not there is accompanying intra-abdominal, renal, or spinal injury, sometimes an extremely difficult differentiation.

"There are certain indications for immediate operative intervention, the most urgent of which is a wound of the heart with acute cardiac compression. This is first suggested by wounds close to the sternum and the diagnosis is made by (1) a falling or absent blood pressure, (2) distended veins of the neck with increased venous pressure, and (3) a silent heart by auscultation." (If a wound of the heart is suspected this patient should be given preference in transportation.)

"Progressing hemorrhage in wounds of the chest requires operation. Generally, this is due to injured intercostal or internal mammary vessels, less often to trauma of the lung itself.

"Wounds of the entrance and exit should be carefully explored so that the intercostal vessels may be carefully inspected, as these are the usual sources of persisting hemorrhage.

"If available, sterile sulfanilamide or sulfathiazole powder may be left in the pleural cavity and soft parts in 6-, 8-, or 10-Gm. amounts as prophylaxis against infection."

Hemothorax

"According to Edwards and Davies about

WORK

A Song of Triumph

ANGELA MORGAN

Work!

Thank God for the might of it,
The ardor, the urge, the delight of it—
Work that springs from the heart's desire,
Setting the brain and the soul on fire—
Oh, what is so good as the beat of it,
And what is so good as the heat of it,
And what is so kind as the stern command,
Challenging brain and heart and hand?

Work!

Thank God for the pride of it,
For the beautiful, conquering tide of it,
Sweeping the life in its furious flood,
Thrilling the arteries, cleansing the blood,
Mastering stupor and dull despair,
Moving the dreamer to do and dare.
Oh, what is so good as the urge of it,
And what is so glad as the surge of it,
And what is so strong as the summons deep,
Rousing the torpid soul from sleep?

Work!

Thank God for the pace of it,
For the terrible, keen, swift race of it;
Fiery steeds in full control,

Nostrils aquiver to greet the goal.
Work, the power that drives behind,
Guiding the purposes, taming the mind,
Holding the runaway wishes back,
Reining the will to one steady track,
Speeding the energies faster, faster,
Triumphing over disaster.
Oh, what is so good as the pain of it,
And what is so great as the gain of it?
And what is so kind as the cruel goad,
Forcing us on through the rugged road?

Work!

Thank God for the swing of it,
For the clamoring, hammering ring of it,
Passion of labor daily hurled
On the mighty anvils of the world.
Oh, what is so fierce as the flame of it?
And what is so huge as the aim of it?
Thundering on through the dearth and doubt,
Calling the plan of the Maker out.
Work, the Titan; Work, the friend,
Shaping the earth to a glorious end,
Draining the swamps and blasting the hills,
Doing whatever the Spirit wills—
Rending a continent apart,
To answer the dream of the Master heart.
Thank God for a world where none may shirk—
Thank God for the splendor of work!

NEW YORK PHYSICIANS TO HOLD SUPPER-DANCE AT SHERRY'S TO AID AMERICAN HOSPITAL IN BRITAIN

The Physicians' Committee of Greater New York is holding a Supper-Dance at Sherry's on Washington's Birthday Eve, February 21, to raise funds to help maintain the American Hospital in Britain, which is entirely staffed by American doctors, nurses, and technicians, and all of whose equipment is American-made. This benefit to aid the "American Hospital in Britain" is a new venture for the Physicians' Committee, which heretofore has raised a considerable sum to aid many of the voluntary hospitals.

Dr. Adolph G. DeSanctis is chairman of the Physicians' Committee of Greater New York, with Dr. B. Wallace Hamilton as secretary, Dr. Kirby Dwight as treasurer, and Drs. Chas. Gordon Heyd, Nathan B. Van Etten, John E. Jennings, H. P. Mencken, and Herbert A. Cochran as vice-chairmen of the five boroughs of

Greater New York. Mrs. W. Coda Martin, the director of the Medical Department of the British War Relief Society, Inc., is campaign director.

There will be dancing, cards, a buffet supper, as well as a Game Room. A U. S. Defense Bond, the main prize, will add a patriotic touch. One of the most unique and interesting events of the evening will be a Cabaret in which the doctors themselves will participate.

This Supper-Dance is being sponsored entirely by doctors and their families and friends. Already one-fifth of the tickets have been sold, and much enthusiasm is being shown by the medical profession in this affair.

Tickets may be purchased and tables reserved at the Medical Aid Department, British War Relief Society, 730 Fifth Avenue.

Foreigners listening to our radio must be astonished to hear such heart-stirring eloquence wasted on laxatives.

—Exchange

Customer: "Do you have anything for gray hair?"

Druggist: "Nothing, sir, but the greatest respect."

—Medical Record

examined. The outstanding pathological condition consisted of hemorrhages in both lungs and in all lethal cases blood was present in the bronchial tree and air passages. The blood comes from torn alveolar capillaries as a rule. There was bruising and tearing of the lungs in the lines of the ribs, this bruising extending for a short distance into the parenchyma. Zuckerman concluded that these pulmonary lesions were caused by the pressure component of the blast by its impact with the body wall. This concussion was based on the type of lesions found and further on the fact that animals encased in thick sponge rubber suffered little damage from the blast compared with their controls; also animals with one-half of their bodies protected by rubber sustained these lesions only on their unprotected sides when they were exposed with this side facing the blast and not on the protected side when this was the side exposed to the blast.

"In the clinical cases similar findings have been recorded. After blast concussions symptoms may be delayed in appearance up to two to five days and consist of tachycardia, restlessness, dyspnea, and cough with blood-tinged sputum. The signs are a fullness of the lower chest with diminished movement of the diaphragm, some spasticity of the upper abdomen, dullness and rales at the base of the lungs, and a loss of translucency by x-ray with evidence of diminished rib expansion. The treatment is absolute rest, sedation, and oxygen therapy."

Mr. Broster states: "At autopsy, hemorrhage of varying degree is found in the lungs. Hemorrhages may also occur in other organs, such as the liver and spleen, intestine, adrenals, kidney, bladder and, seldom, the brain. There is some evidence to suggest that the lung effect is due to sudden compression of the chest wall, and bleeding into the lung capillaries may go on for some days. The force of the blast may hurl people against objects and give rise to injuries from such a blow, and fat embolism has also been found in the lung. From the surgical aspect this syndrome is associated with rigidity in the abdomen, and this point needs emphasis to prevent unnecessary celiotomy and caution so as not to overlook coincident injury to the intestine."

Burns

War has made so many revolutionary changes in the treatment of burns that I approach this subject with considerable hesitation.

After the patient has reached the hospital there is a general agreement that the shock, and later hypoproteinemia, is best treated by plasma transfusion, often of considerable magnitude, accompanied by adrenal cortex medication for shock. And, later, almost everyone agrees that the granulating surfaces should be skin-grafted as soon as possible in order to combat dehydration and, second, anemia. What, however, should be the immediate first-aid treatment?

It is obvious, I believe, that first aid, except for treatment of shock by morphine and warmth, should not be given in a first-aid station unless transportation is to be considerably delayed.

The primary treatment of the shock should be associated with the primary debridement and local treatment of the burned surfaces. It is often better to remove the burned clothing in the hospital, if possible, than to strip it off in a poorly ventilated and drafty first-aid shelter. Often the clothing is stuck to the skin and new shock is produced by the primary first-aid treatment.

The problem of the local treatment after the patient reaches the hospital depends upon whether one prefers the formation of an eschar in order to splint the burn and diminish the pain of dressing or whether one prefers the so-called open method, which means that no effort is made to create an eschar.

In the first-aid kits both tannic acid powder and picric acid are supplied. If it is necessary to do first-aid treatment, one must avoid the use of ointments, and probably the best first aid would be sprinkling the burned surface with sulfathiazole and then applying a wet dressing of freshly made 5 per cent tannic acid. Notable exceptions to this treatment should be burns of the hands and face, where amertan can be utilized instead of the wet dressing. Amertan is in a water base and does not create the firm eschar that the aqueous solution of tannic acid does. It would be inadvisable to go further into the local treatment of burns in the hospital at this time, since it has nothing to do with first aid.

Finally, in conclusion, I should like to quote a poem, written, strangely enough, in 1917 when we were entering a world crisis similar to the one today. This was written by Angela Morgan, and to my mind, it epitomizes the job of each member of the medical profession, whether he is in the uniform of the armed forces, whether he is working on a draft board, or whether he is serving the civil population.

Medical Preparedness

Occupational Deferments of Medical Doctors, Dentists, and Doctors of Veterinary Medicine

The memorandum published below is for the information and guidance of all physicians of the State of New York.

COL. SAMUEL J. KOPETZKY,
New York State Chairman,
Procurement and Assignment Service

NATIONAL HEADQUARTERS
SELECTIVE SERVICE SYSTEM,
WASHINGTON, D. C.
21st and C Streets, N. W.

January 28, 1942

Memorandum to All State Directors (I-363)

Local Board Release (89)

Subject: Occupational Deferments of Medical Doctors, Dentists, and Doctors of Veterinary Medicine (III)

Information previously distributed by this Headquarters clearly indicates an overall shortage of medical doctors, dentists, and doctors of veterinary medicine in the Nation. Since war was declared, the shortage of these professional men has become acute. It is now manifest that every qualified doctor, dentist, and veterinarian must serve where he can render the greatest professional service to the Nation.

In order to accomplish this purpose, the President, by Executive Order, has formed the Procurement and Assignment Service, under the Office of Defense Health and Welfare Services. This Service was formed primarily for the purpose of gathering and making available information with respect to the supply of qualified practitioners in the fields of medicine, dentistry, and veterinary medicine, with a view of securing the most effective allocation of medical man power as indicated by the requirements of the armed forces, civilian needs, and industrial medicine.

To work with the headquarters of this Service in Washington, there is being organized a committee for each Corps Area in the Continental United States. Each committee will consist of five doctors, two dentists, and one veterinarian.

The committees have been accepted as advisors to the nine Corps Area Surgeons, to the Naval District Surgeons, and to the Regional Medical Officers of the Office of Civilian Defense and will operate not only through the subdivisions of the medical, dental, and veterinary associations but also with the profession at large in securing information and giving advice.

When considering the classification of any registrant who is a qualified medical doctor, dentist, or doctor of veterinary medicine, the Director of Selective Service desires that Local Boards, through the State Director, shall consult the Procurement and Assignment Committee of the Corps Area for information as to the availability of qualified medical doctors, dentists, and doctors of veterinary medicine in the community. This information shall be considered by the local board in determining the registrant's classification. The Executive Order referred to in no way affects the authority of the Selective Service System to classify registrants. The procedure has been established for the purpose of making such information available to local boards.

For the convenience of the State Director and the local boards, the names and addresses of the Chairmen of the nine Corps Area Committees of the Procurement and Assignment Service are listed below:

First Corps Area.....
*Second Corps Area—Dr. A. W. Booth, Elmira,
New York.

Third Corps Area.....
Fourth Corps Area.....
Fifth Corps Area.....
Sixth Corps Area.....
Seventh Corps Area.....
Eighth Corps Area.....
Ninth Corps Area.....

Sincerely yours,

LEWIS B. HERSHEY, *Director*

* Dr. A. W. Booth, Elmira, New York, has established temporary offices at the Headquarters of the Medical Society of the State of New York at 292 Madison Avenue, New York City, where he may be addressed.

PREMEDICAL AND MEDICAL STUDENTS

Opportunity for Appointments as Ensigns in Class H-V(P) United States Naval Reserve

THE Secretary of the Navy recently approved a change in Navy regulations whereby it is now possible for those premedical students who have been accepted for entrance to, and all medical students in, Class "A" medical colleges, to be appointed in the United States Naval Reserve in Class H-V(P), provided they

meet the physical and other requirements for such appointment.

Students who are acceptable will be given provisional commissions as Ensigns, and it is the policy of the Bureau of Medicine and Surgery not to nominate such officers for active duty until after they have completed their prescribed

Maternal Welfare

From time to time under this heading articles will appear on obstetric subjects which are deemed of importance as aids to improvement of maternal welfare in New York State. The members of the Committee are Charles A. Gordon, M.D., chairman; Alexander T. Martin, M.D.; James K. Quigley, M.D.; and Ferdinand J. Schoeneck, M.D.

Standards for the Care of Pregnancy Complicated by Heart Disease

THE following article on heart disease in pregnancy was first published by the Committee on Maternal Welfare of the Medical Society of the County of Kings in 1938. The standards were revised in 1941. The first portion of the article is herewith reproduced; the remainder will appear in the March 1 issue.

Usual Types of Heart Disease Complicating Pregnancy

About 7 per cent of women have heart murmurs when they are examined during pregnancy. The majority of these murmurs do not indicate heart disease. They are known as functional murmurs and are purely incidental findings without pathologic significance.

The majority of these functional murmurs are systolic in time. They may be heard at all valve areas. When the patient is studied more carefully by x-ray examination of the heart, no abnormal change in the size or shape may be detected. Women with these murmurs bear pregnancy well because there is no cardiac pathology. A good proportion of these murmurs disappear after the pregnancy.

Organic disease of the heart occurs in about 1 per cent of pregnant women in this locality. About 90 per cent of the lesions encountered are due to rheumatic heart disease. The remaining cardiac lesions will include congenital abnormalities, syphilis, cardiovascular disease, arteriosclerosis, and hypertensive heart disease.

All the rheumatic cases may not give a history of rheumatic fever. The most frequent rheumatic lesion encountered is mitral stenosis, with or without mitral insufficiency.

When organic disease of the heart exists, there is usually a diastolic or presystolic murmur present, with or without a systolic murmur. This finding is most important in recognizing a diseased heart.

There will also be noticed some change in size and shape of the heart on an x-ray examination. When a systolic murmur occurs alone, it must be associated with some change in the size or contour of the heart before a diagnosis of organic disease is made, even if there is a history of rheumatic fever.

Classification of Heart Disease*

Functional Capacity

Classification of Patients.—*Class I:* Patients with cardiac disease and no limitation of physical

activity. Ordinary physical activity does not cause discomfort. Patients in this class do not have symptoms of cardiac insufficiency, nor do they experience anginal pain.

Class II (formerly II-A): Patients with cardiac disease and slight limitation of physical activity. They are comfortable at rest. If ordinary physical activity is undertaken, discomfort results in the form of undue fatigue, palpitation, dyspnea, or anginal pain.

Class III (formerly II-B). Patients with cardiac disease and marked limitation of physical activity. They are comfortable at rest. Discomfort in the form of undue fatigue, palpitation, dyspnea, or anginal pain is caused by less than ordinary activity.

Class IV (formerly III): Patients with cardiac disease who cannot carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of the anginal syndrome are present even at rest. If any physical activity is undertaken, discomfort is increased.

Therapeutic Classification.—*Class A:* Patients with cardiac disease whose physical activity need not be restricted.

Class B: Patients with cardiac disease whose ordinary physical activity need not be restricted but who should be advised against unusually severe or competitive efforts.

Class C: Patients with cardiac disease whose ordinary physical activity should be moderately restricted and whose more strenuous habitual efforts should be discontinued.

Class D: Patients with cardiac disease whose ordinary physical activity should be markedly restricted.

Class E: Patients with cardiac disease who should be at complete rest, bed or chair.

Potential Heart Disease.—Patients in whom no cardiac disease is discovered, but whose course should be followed by periodic examinations because of the presence or history of an etiologic factor that might cause heart disease. The diagnosis in these cases is potential heart disease. The etiologic diagnosis should also be recorded.

Possible Heart Disease.—Patients with symptoms or signs referable to the heart but in whom a diagnosis of cardiac disease is uncertain should be classified tentatively as possible heart disease. When there is a reasonable probability that signs or symptoms are not of cardiac origin, a diagnosis of possible heart disease should not be made. Re-examination after a suitable interval will usually establish a definite diagnosis.

* According to the New York Heart Association as approved by the American Heart Association.

Postgraduate Medical Education

Programs arranged by the Council Committee on Public Health and Education of the Medical Society of the State of New York will henceforth be published in this section of the JOURNAL. Members of the committee are Oliver W. H. Mitchell, M.D., chairman; George Baehr, M.D.; and Charles D. Post, M.D.

General Medicine

A course in General Medicine has been arranged by Dr. Walter W. Palmer, College of Physicians and Surgeons, Columbia University, New York City, for the *Columbia County Medical Society*. The lectures will be given on Thursday evenings, 8:30 p.m., at the Hudson City Hospital in Hudson, New York.

March 12.—The Modern Treatment of Diabetes
H. Rawle Geyelin, M.D., associate clinical professor of medicine, College of Physicians and Surgeons, Columbia University.

March 26.—Syphilis.

James Lowery Miller, M.D., instructor in dermatology, College of Physicians and Surgeons, Columbia University.

April 9.—The Diagnosis and Treatment of Anemia.

Paul Reznikoff, M.D., associate professor of clinical medicine, Cornell University Medical College, New York City.

April 23.—Hypertension and Hypertensive Heart Disease.

William Goldring, M.D., associate professor of medicine, New York University College of Medicine, New York City.

May 7.—Asthma.

Albert Vander Veer, M.D., consultant in allergy, Roosevelt Hospital, and assistant director, Allergy Clinic, New York City.

May 21.—Rheumatic Fever.

Homer F. Swift, M.D., Hospital of the Rockefeller Institute for Medical Research, New York City.

June 4.—Nephritis.

John D. Lytle, M.D., assistant professor of pediatrics, College of Physicians and Surgeons, Columbia University.

The lectures on "Syphilis" and "Rheumatic Fever" are given in cooperation with the State Department of Health and the New York State Medical Society.

A course in General Medicine, arranged by Dr. Albert F. R. Andresen, Long Island College of Medicine, Brooklyn, for the *Madison County Medical Society* is being given on Tuesday evenings, at 8:30 p.m., at the Hotel Oneida, Oneida, New York. (It is a course of clinical lectures illustrated by clinical material furnished by the group addressed.) This course may also be given in the form of regular lectures illustrated by lantern slides and tables.

February 3.—Practical Considerations of Blood Dyscrasias.

Eugene R. Marzullo, M.D., clinical professor of medicine, Long Island College of Medicine.

February 10.—Diabetes: Its Modern Interpretation and Treatment.

M. B. Handelsman, M.D., assistant clinical

professor of medicine, Long Island College of Medicine.

February 17.—Treatment of Gallbladder Disease.

Albert F. R. Andresen, M.D., professor of clinical medicine, Long Island College of Medicine.

Sulfonamide Therapy

A course on Sulfonamide Therapy of three two-hour sessions was arranged by the Council Committee on Public Health and Education, Medical Society of the State of New York and the New York State Department of Health for the *Oneida County Medical Society*. The lectures were held at the Utica State Hospital.

First Session: Tuesday Evening, January 20.

1. Behavior of Sulfonamides in the Body and Principles for Their Use.

David D. Rutstein, M.D., director, Cardiac Bureau, State Department of Health, and assistant professor of medicine, Albany Medical College, Albany, New York.

2. Local and Internal Use of Sulfonamides in Surgery.

J. Ernest Delmonico, M.D., associate professor of clinical surgery, Syracuse University, College of Medicine, Syracuse.

Second Session: Tuesday Evening, January 27.

1. Treatment of Genitourinary Infections in the Male.

Thomas F. Laurie, M.D., associate professor of urology, Syracuse University College of Medicine, Syracuse, New York.

2. Sulfonamides in Obstetrics and Gynecology.

Ferdinand J. Schoeneck, M.D., assistant professor of clinical obstetrics, Syracuse University College of Medicine, Syracuse.

Third Session: Tuesday Evening, February 3.

1. Treatment of Pneumonia.

Joseph J. Bunim, M.D., instructor in medicine, New York University College of Medicine, Brooklyn.

2. Treatment of Meningitis.

A. Clement Silverman, M.D., professor of clinical pediatrics, Syracuse University College of Medicine, Syracuse, New York.

This instruction is a cooperative endeavor between the New York State Department of Health and the State Medical Society.

A course in Sulfonamide Therapy of three two-hour sessions was arranged by the Council Committee on Public Health and Education, Medical Society of the State of New York and the New York State Department of Health for the *Jefferson County Medical Society*. The lectures were as follows:

medical studies and shall have served one year's satisfactory internship in a civilian hospital accredited for intern training, or shall have been accepted as Acting Assistant Surgeon in the Navy for intern training.

Upon graduation, and when the Bureau has been informed of this fact by the Dean, commissions as Lieutenant (junior grade) MC-V(G), U.S.N.R., will be issued to provisional Ensigns and, after serving their internship in nonnaval hospitals, they will be nominated for active duty. Application for, or acceptance of, either a provisional or permanent commission in the Naval Reserve, does not preclude the possibility of applying for a commission in the Medical Corps of the regular Navy. Persons affiliated with the Naval Reserve are not subject to induction into Army service by action of local Selective Service Boards.

Navy regulations require that all applications for appointments in the Naval Reserve be filed with the Commandant of the Naval District in which the applicant resides. The address of the Commandant of your district may be obtained from the Dean of your college.

Application forms may be obtained from the Dean's office or from someone designated by him, upon request from the Bureau of Medicine and Surgery, Navy Department, Washington, D. C., or from the Commandant of your Naval District. When your application form has been properly completed, it, together with the other credentials indicated on the application form, should be mailed to the Commandant of your Naval District. He will instruct you relative to obtaining a physical examination, fingerprints, etc.

In the case of a premedical student, it is necessary to enclose with your application for appointment a statement, signed by the Dean of a medical college, to the effect you have been accepted as a first-year medical student in a Class "A" school for the next entering class.

It is the understanding of the Bureau of Medicine and Surgery that Selective Service Boards will accept a statement from the Commandant of your Naval District to the effect that your application is on file as basis for deferment until your application has received final action.

The following appeared in the Journal of the Medical Society of the County of New York January 24, 1942. In the other counties in Greater New York similar arrangements are being made. It is urged by the Emergency Medical Service of the Office of Civilian Defense that all physicians in the five counties enroll with their county societies in aid of this service.—
Editor

Emergency Medical Service Gives Role of Physician in Civilian Defense

THE following plan for the guidance of the medical profession in New York County has been approved by Dr. Edward M. Bernecker, Chief of Emergency Medical Service for the New York Area:

A. As to all physicians.

1. Each physician is requested to register by mail for Civilian Defense with the New York County Medical Society, 2 East 103rd Street. Such registration will be made available to Central and Local Stations under the Office of Civilian Defense. This registration should include each doctor's name, age, specialty, office address and telephone number, office hours, home address and telephone number.

2. Each Local Control Station will thus be furnished with a list of physicians within its area who shall be subject to call and despatch where needed, in the event of air raid or local catastrophe.

3. Each physician registered is to be provided with an identification card from the Office of Civilian Defense to be honored by police and wardens, but used as a pass only when the physician is called by his Control Station.

B. As to Chiefs of Emergency Medical Service, members of hospital staffs, and of Emergency Field Units.

1. Designated medical officials under Office of Civilian Defense will be provided with distinctive arm bands and automobile insignia to permit free movement in time of emergency.

2. Each authorized hospital staff physician

will be provided with an identifying arm band (O.C.D. Medical Corps design), to be used as a pass only when he is called to his hospital at such time as the Emergency Field Unit of his hospital is sent out, or when his hospital is designated to receive casualties.

C. As to physicians not affiliated with hospitals.

1. The duty of such physicians is to remain at office or home unless ordered to specific duty by Control Station.

2. To await such call, responding when needed for:

a. Assistance or replacement for Casualty Station.

b. Assistance or replacement for hospital staff.

c. Duty at First-Aid Post.

3. In event of a nearby catastrophe a physician's office may be employed as a First-Aid Post.

4. If neither at home nor office at the time of raid, physician should remain where he is to give local aid if needed until he can be summoned officially to other duty or return to his office or home.

Physicians of New York County who desire to serve under Civilian Defense and to receive identification cards are requested to mail to the office of the Medical Society of the County of New York the information requested in Paragraph A-1 above.

CONDUCT W. CUTLER, JR., M.D., Chief,
Emergency Medical Service, New York County

Postgraduate Medical Education

Programs arranged by the Council Committee on Public Health and Education of the Medical Society of the State of New York will henceforth be published in this section of the JOURNAL. Members of the committee are Oliver W. H. Mitchell, M.D., chairman; George Baehr, M.D.; and Charles D. Post, M.D.

General Medicine

A course in General Medicine has been arranged by Dr. Walter W. Palmer, College of Physicians and Surgeons, Columbia University, New York City, for the *Columbia County Medical Society*. The lectures will be given on Thursday evenings, 8:30 p.m., at the Hudson City Hospital in Hudson, New York.

March 12.—The Modern Treatment of Diabetes
H. Rawle Geyelin, M.D., associate clinical professor of medicine, College of Physicians and Surgeons, Columbia University.

March 26.—Syphilis.

James Lowery Miller, M.D., instructor in dermatology, College of Physicians and Surgeons, Columbia University.

April 9.—The Diagnosis and Treatment of Anemia.

Paul Reznikoff, M.D., associate professor of clinical medicine, Cornell University Medical College, New York City.

April 23.—Hypertension and Hypertensive Heart Disease.

William Goldring, M.D., associate professor of medicine, New York University College of Medicine, New York City.

May 7.—Asthma.

Albert Vander Veer, M.D., consultant in allergy, Roosevelt Hospital, and assistant director, Allergy Clinic, New York City.

May 21.—Rheumatic Fever.

Homer F. Swift, M.D., Hospital of the Rockefeller Institute for Medical Research, New York City.

June 4.—Nephritis.

John D. Lyttle, M.D., assistant professor of pediatrics, College of Physicians and Surgeons, Columbia University.

The lectures on "Syphilis" and "Rheumatic Fever" are given in cooperation with the State Department of Health and the New York State Medical Society.

A course in General Medicine, arranged by Dr. Albert F. R. Andresen, Long Island College of Medicine, Brooklyn, for the *Madison County Medical Society* is being given on Tuesday evenings, at 8:30 p.m., at the Hotel Oneida, Oneida, New York. (It is a course of clinical lectures illustrated by clinical material furnished by the group addressed.) This course may also be given in the form of regular lectures illustrated by lantern slides and tables.

February 3.—Practical Considerations of Blood Dyscrasias.

Eugene R. Marzullo, M.D., clinical professor of medicine, Long Island College of Medicine.

February 10.—Diabetes: Its Modern Interpretation and Treatment.

M. B. Handelsman, M.D., assistant clinical

professor of medicine, Long Island College of Medicine.

February 17.—Treatment of Gallbladder Disease.

Albert F. R. Andresen, M.D., professor of clinical medicine, Long Island College of Medicine.

Sulfonamide Therapy

A course on Sulfonamide Therapy of three two-hour sessions was arranged by the Council Committee on Public Health and Education, Medical Society of the State of New York and the New York State Department of Health for the *Oneida County Medical Society*. The lectures were held at the Utica State Hospital.

First Session: Tuesday Evening, January 20.

1. Behavior of Sulfonamides in the Body and Principles for Their Use.

David D. Rutstein, M.D., director, Cardiac Bureau, State Department of Health, and assistant professor of medicine, Albany Medical College, Albany, New York.

2. Local and Internal Use of Sulfonamides in Surgery.

J. Ernest Delmonico, M.D., associate professor of clinical surgery, Syracuse University, College of Medicine, Syracuse.

Second Session: Tuesday Evening, January 27.

1. Treatment of Genitourinary Infections in the Male.

Thomas F. Laurie, M.D., associate professor of urology, Syracuse University College of Medicine, Syracuse, New York.

2. Sulfonamides in Obstetrics and Gynecology.

Ferdinand J. Schoeneck, M.D., assistant professor of clinical obstetrics, Syracuse University College of Medicine, Syracuse.

Third Session: Tuesday Evening, February 3.

1. Treatment of Pneumonia.

Joseph J. Bunim, M.D., instructor in medicine, New York University College of Medicine, Brooklyn.

2. Treatment of Meningitis.

A. Clement Silverman, M.D., professor of clinical pediatrics, Syracuse University College of Medicine, Syracuse, New York.

This instruction is a cooperative endeavor between the New York State Department of Health and the State Medical Society.

A course in Sulfonamide Therapy of three two-hour sessions was arranged by the Council Committee on Public Health and Education, Medical Society of the State of New York and the New York State Department of Health for the *Jefferson County Medical Society*. The lectures were as follows:

First Session: Tuesday, January 27, 1942, at 7:30 P.M. Mercy Hospital, Watertown, New York.

1. Behavior of Sulfonamides in the Body and Principles for Their Use.

Alexander D. Langmuir, M.D., Deputy Commissioner, County of Westchester Department of Health, Peekskill, New York.

2. Local and Internal Use of Sulfonamides in Surgery.

Leon E. Sutton, M.D., associate professor of clinical surgery, Syracuse University College of Medicine, State Tower Building, Syracuse, New York.

Second Session: Thursday, February 12, 1942, at 6:30 P.M. Black River Valley Club, Watertown, New York.

1. Treatment of Genitourinary Infections in the Male.

Allister M. McLellan, M.D., instructor in urology, Cornell University Medical College, 121 East 60th Street, New York City.

2. Sulfonamides in Obstetrics and Gynecology.

Edward C. Hughes, M.D., professor of clinical obstetrics, Syracuse University College of Medicine, 713 East Genesee Street, Syracuse, New York.

Third Session: Tuesday, February 24, 1942, 7:30 P.M. Mercy Hospital, Watertown, New York.

1. Treatment of Pneumonia.

Clayton W. Greene, M.D., professor of medicine, University of Buffalo, School of Medicine.

2. Treatment of Meningitis.

Harry Bakwin, M.D., associate professor of pediatrics, New York University Medical College.

This instruction is a cooperative endeavor between the New York State Department of Health and the Medical Society of the State of New York.

Cancer Teaching Day Held in Syracuse

The Cancer Teaching Day held at Syracuse on January 17 was attended by physicians from all parts of the state. A well-arranged program was presented under the auspices of the following organizations:

Tumor Clinic Association of the State of New York

Syracuse University College of Medicine
Medical Society of the State of New York
Division of Cancer Control of the New York State Department of Health.

The Council of the Tumor Clinic Association held a morning session and luncheon at the University Club of Syracuse. The members of the Council are: Drs. Frederick S. Wetherell, president, Syracuse; Andrew H. Bowdy, vice-president, Rochester; Clyde L. Randall, secretary and treasurer, Buffalo; Arthur A. Hobbs, Jr., Ogdensburg; Arthur C. Martin, Hempstead; Karl F. Eschelman, Buffalo; Leslie R. Lingeman, Rochester; J. Howard Ferguson, Syracuse; Arthur F. Holding, Albany; James Greenough, Oneonta; and C. O. Davison, Poughkeepsie.

The afternoon meeting was held in the auditorium of Syracuse University College of Medicine. At this session an attentive audience of more than 250 listened to an instructive program, ably presented. Dr. Frederick S. Wetherell, president of the Tumor Clinic Association, presided. Dr. Herman G. Weiskotten, dean, Syracuse University College of Medicine, welcomed the physicians and expressed his interest in and desire to assist the graduate medical education program as now given in New York State through the cooperation of the Medical Society of the State of New York, the New York State Department of Health, the medical schools, and many other medical and public health groups.

Dr. Bowman C. Crowell, associate director, American College of Surgeons, spoke on "The Role of Tumor Clinics in Cancer Control," with discussion by Dr. Louis C. Kress, director, Division of Cancer Control, State Department of Health.

Dr. Lloyd F. Craver, attending physician, Memorial Hospital, New York City, spoke on "The General Practitioner and the Diagnosis of Cancer," followed by a discussion by Dr. Karl F. Eschelman, director, Tumor Clinic, and Edward J. Meyer, Memorial Hospital, Buffalo.

Dr. John J. Morton, Jr., professor of surgery, University of Rochester School of Medicine, discussed the topic of "Advances in Surgical Treatment of Cancer," followed by a discussion by Dr. George W. Cottis, president-elect of the Medical Society of the State of New York.

Dr. J. Howard Ferguson, associate professor of Pathology, Syracuse University College of Medicine, talked on "Biopsy-Indications and Methods." This was followed by a discussion by Dr. Rudolph J. Shafer, director of laboratories, Steuben County, Corning. The papers were followed by a general discussion, questions, and an exchange of ideas.

A social hour at Hotel Syracuse followed the afternoon meeting. Refreshments were provided by the Local Committee on Arrangements. These physicians are to be highly congratulated for their part in making the Cancer Teaching Day such an enjoyable occasion.

One hundred sixty-one physicians attended the dinner held at the Hotel Syracuse. Dr. O. W. H. Mitchell presided at the scientific session. Opening remarks were made by Dr. Edward S. Godfrey, Jr., commissioner of health, the State of New York. Dr. Godfrey stressed the importance of cooperative endeavor and teamwork and expressed his appreciation of the postgraduate education program of the State Medical Society in which the State Department of Health willingly and gladly participates.

Dr. G. Allen Robinson, Director, Tumor Clinic, Flower and Fifth Avenue Hospitals, New York City, and Dr. Walter T. Murphy, Radiologist, State Institute for the Study of Malignant Diseases, discussed the subject of "Principles of Radium and X-Ray Therapy." Dr. Byrl R. Kirklin, chief, Section of Roentgenology, Mayo Clinic, Rochester, Minnesota, discussed the subject of "X-Ray as a Diagnostic Aid in Cancer." These instructive and interesting talks were illustrated with lantern slides.

Those in charge of this Teaching Day expressed the hope that more state-wide cancer meetings will be held in other cities in New York.

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ment must be in the colloidal state to be absorbed. OVOFERRIN arrives in the intestines as a colloidal hydrous oxide which is readily assimilable and does not dehydrate or constipate.

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Medical News

Traffic Regulations Eased for Doctors

ASISTANT Chief Inspector, J. J. Sheehy, Police Department, City of New York, has advised the Chairman of the Coordinating Council of the Five County Medical Societies of Greater New York, that an order has been issued to police officials directing the recognition of M.D. license plates as evidence that the automobile belongs to a practicing physician. Heretofore only the official cards and insignia of the county medical societies were recognized by the police.

In the future police and traffic patrolmen will extend courtesy to physicians when their cars are

in use for professional purposes, such as making calls at the home of patients, attending hospitals and clinics, or participating in defense activities. Inasmuch as physicians' services will be required at any time of the day or night, in the event of an emergency, it may be necessary for physicians to park their cars in front of their homes or offices, if their garages are not in the immediate vicinity.

Official insignia will probably be issued by the defense authorities in the near future to cover physicians engaged in this work and to enable the police to recognize such a physician's car as in emergency use.

County News

Bronx County

The January meeting was held on the twenty-first at Burnside Manor, 85 West Burnside Avenue. Following the executive session Dr. George Ernest Binkley gave a talk on "The Diagnosis and Treatment of Cancer of the Rectum." Discussion was by Dr. Joseph Felsen and Dr. Edward R. Cunneiff.

"Cancer of the Colon and Rectum" was the subject of a scientific exhibit which was divided into three sections: radiographic, pathologic, and proctologic.

Chautauqua County

The following officers were elected at the annual meeting of the county medical society held at Jamestown on December 18: president, Dr. B. S. Custer, Fredonia; vice-president, Dr. C. Otto Lindbeck, Jamestown; secretary, Dr. Edgar Bieber, Dunkirk; and treasurer, Dr. F. Pfisterer, Dunkirk.—*Edgar Bieber, M.D., Secretary.*

Chemung County

The county medical society has voted to rename the *Elmira Tumor Clinic* in memory of its founder, Dr. Joseph S. Lewis, who died on January 21. The clinic meets each Wednesday at 11:00 A.M. at St. Joseph's Hospital for the study and diagnosis of malignant tumors.

Dutchess County

At the annual meeting in January, Dr. Edgar F. Powell, Fishkill, was elected president of the society. Others elected are: vice-president, Dr. E. A. Stoller; secretary-treasurer, Dr. John Rogers; associate secretary, Dr. L. W. Stoller; censors, Dr. Julius Haight, Dr. A. L. Peckham, Dr. G. S. Tabor, Dr. H. P. Carpenter, Dr. P. V. Buckley; delegate, Dr. Samuel Appel; alternate, Dr. Aaron Sobel.

Schedule of medical fees of at least \$2.00 for office calls and \$3.00 for house calls has been endorsed by the county society.

Erie County

The following officers were elected at the annual meeting held December 23.

President, Dr. Harvey P. Hoffman; first vice-president, Dr. Harold F. R. Brown; second vice-president, Dr. John D. Naples; secretary, Dr. Louise W. Beamis; and treasurer, Dr. Ralph M. DeGraff, all of Buffalo.

Chairman, Board of Censors, Dr. Eugene M. Sullivan; Chairman of Legislation, Dr. Joseph C. O'Gorman; Chairman of Public Health, Dr. John W. Kohl; Chairman of Economics, Dr. E. Dean Babbage; and Chairman of Membership, Dr. Charles R. Borzilleri, Jr.

Delegates, 1942 to 1943: Dr. Albert A. Gartner, Dr. Nelson W. Strohman, Dr. Carlton E. Wertz, and Dr. Herbert E. Wells.

Alternate delegates, 1942 to 1943: Dr. John T. Donovan, Dr. A. H. Aaron, Dr. Francis J. Butlak, and Dr. Milton A. Palmer.—*Louise W. Beamis, M.D., Secretary.*

At the meeting of the woman's auxiliary on January 27 which was held in the Hotel Statler, Buffalo, Dr. Harvey P. Hoffman, president, and Dr. Louise W. Beamis spoke.

On January 21 Dr. J. Bay Jacobs, Washington, D. C., spoke on "Management of Labor and Outcome in 800 Women with Borderline Pelves" at the Buffalo Academy of Medicine.

Franklin County

The Saranac Lake Medical Society had two excellent speakers for their meetings on January 21 and 28. On the twenty-first Dr. F. A. D. Alexander, director of anesthesia at Albany, spoke on "The Genesis of Respiration." On the twenty-eighth Dr. Norman Plummer, assistant professor of clinical medicine, Cornell University, discussed "Newer Chemotherapeutic Methods."

A dinner at the Elks' Club in honor of the guest speakers preceded the meetings. Around seventy members attended each session.

Herkimer County

At a medical staff meeting of the Little Falls Hospital on January 13 a schedule of increased fees was adopted.

The new fees, which became effective February 1, are \$2.00 for office calls, \$3.00 for home

[Continued on page 378]



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[Continued from page 376]

calls between 8:00 A.M. and 10:00 P.M., and \$4.00 for home calls between the hours of 10:00 P.M. and 8:00 A.M. The customary extra charges will still apply for rural calls. The new schedule applies in Little Falls, Dolgeville, St. Johnsville, and other communities in which the physicians are members of the hospital staff.

Jefferson County

See page 373 for a schedule of lectures in the postgraduate course on sulfonamide therapy that is now being given for society members.

Kings County

At the regular meeting of the society on February 17 Dr. Philip Levine, Newark, New Jersey, will speak on "The Importance of Iso-Immunitization in the General Practice of Medicine." Dr. Foster Murray, Brooklyn, will also speak and will have as his subject "Primary Malignant Tumors of the Lungs."

In December the following county society officers were elected: president, William C. Meagher; president-elect, John J. Gainey; vice-president, Thomas B. Wood; secretary, Benjamin M. Bernstein; associate secretary, Eugene R. Marzullo; treasurer, Irwin E. Siris; associate treasurer, Harry Mandelbaum; and directing librarian, Jacques C. Rushmore.

Dr. J. M. Ravid will, for the third successive season, give a four-month course in gynecologic pathology at the Israel Zion Hospital in Brooklyn. This course is given under the auspices of the Joint Committee on Postgraduate Education of the Kings County Society and the Long Island College of Medicine. For further information apply to the Registrar, 1313 Bedford Avenue, Brooklyn.

Pan-American Medical Association.—Present-day headlines of the war in the Pacific and the Latin-American conferences prompted the Brooklyn and Long Island Chapter of the Pan-American Medical Association to arrange a most timely program for their next meeting on Thursday, February 26, at 9:00 P.M. at the Kings County Medical Society Building, Brooklyn.

The first speaker will be Mr. Russell Pierce, associate director of the Communications Division of the Office of the Coordinator of Inter-American Affairs. He will talk on intercontinental communications in regard to medicine, radio, news, motion pictures, and commerce. Mr. Pierce has spent many years in various South American countries.

The second address will be made by Dr. William S. Bainbridge, medical director, Captain, United States Naval Reserve, who will speak on "Pan-America—Today and Tomorrow." Dr. Bainbridge has recently returned from a six-month mission for our government, which took him to all the Central and South American republics and the important islands and bases in the Caribbean.

All physicians, their wives, and friends are cordially invited.

Livingston County

The 1942 Society officers are as follows: presi-

dent, Dr. A. J. Townsend, Dansville; vice-president, Dr. W. B. Turney, Avon; secretary-treasurer, Dr. G. E. Murphy, Mt. Morris; and censors, Dr. G. B. Manley, Geneseo, Dr. H. F. Hulbert, Dansville, Dr. W. T. Shanahan, Son-yea, Dr. G. E. Murphy, Mt. Morris, and Dr. C. Newton, Geneseo.—Gerald E. Murphy, M.D., Secretary.

Madison County

On February 17 at the Hotel Oneida, Oneida, at 8:30 P.M. Dr. Albert F. R. Andresen, professor of clinical medicine, Long Island College of Medicine, will deliver the final lecture of a postgraduate course arranged by Dr. O. W. H. Mitchell. His subject will be "Treatment of Gallbladder Disease."

Other lectures in this series included one on February 3 by Dr. Eugene R. Marzullo on "Practical Considerations of Blood Dyscrasias," and on February 10 Dr. M. B. Handelsman spoke on "Diabetes Mellitus—Its Modern Interpretation and Treatment."

Monroe County

"How to Keep Fit During the Present Emergency" was the subject of addresses delivered at a public meeting at the Rochester Academy of Medicine by Dr. G. Kirby Collier and Dr. William A. Sawyer on Sunday afternoon, January 25.

On January 30 Captain Lawrence Reilly of the Rochester Fire College spoke to the society members, their families, and friends on "Bombs, Gas, and Decontamination."

Captain Reilly received training at Edgewater Warfare College, Maryland, and his talk was highly informative and well illustrated by sound motion pictures.

Nassau County

"The relationship between the medical and dental professions is getting closer and closer because of new knowledge in both fields," said Dr. Charles W. Martin, president of the county society, at the annual joint dinner meeting of the medical society and the county dental society. The meeting was held on January 19 at the Garden City Hotel.

The president of the dental society is Dr. Herman Weinstein, Woodmere.

Dr. Russell L. Cecil of Cornell University Medical College and Dr. Daniel E. Ziskin, associate dentistry professor and chairman of the oral diagnosis division of the School of Dental Surgery at Columbia University, were among the speakers. Their topic was "The Relation of Systemic Diseases to Infections of the Mouth." Dr. Everett Jessup and Dr. Samuel Hoffman commented on the talks.

"In case of emergency arising from air raids or other attack it will be too late to collect and prepare the blood required for cases of severe injury and shock," says the *Nassau Medical News*. "Therefore, the hospitals in the county are endeavoring to prepare for all emergencies in advance." The society paper urges persons between the ages of 18 and 60 to inquire of their doctors how to go about donating blood.

[Continued on page 380]

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TRAVEL MEDICINE

Messengerettes

War brings many changes—sooner or later we become adjusted to them. Yet, in Canada, in the third year of a war changes are still novelties, especially to visitors from this side of the border.

So the latest of these—the “Messengerettes.” With army, navy and air services depleting the delivery forces

of Canadian National Telegraphs, girls are being employed for day-time distribution of cables, telegrams and social messages.

While they do not whistle on the job, they otherwise possess the speed and efficiency of the boys they are replacing.

All Expense Vacations to Aid Defense

During these times of added pressure—the first duties of any airline is still to supply the nation with speedy, efficient transportation and to serve the many persons traveling in the interests of national defense.

Today, the air transport industry has added to its schedules and adjusted them to meet first the needs of those whose missions are urgent to our national defense and security. But there are many individuals in defense industries with additional work placed upon them requiring longer hours. Leisure time for them has been greatly reduced, and yet it is vital that the greatest

part of free time be conserved for proper relaxation.

With this in mind, the Canadian Colonial Airways has announced a series of all-expense winter sports tours which are dovetailed into its regular schedules to provide the maximum of pleasure with the shortest period of wasted time. These tours make it possible to be in the winter wonderland of the Laurentian Mountains in less than three hours after leaving New York.

They include visits of three to ten days, and serve as ideal vacations for people who can get away for only a weekend or a short winter vacation.

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[Continued from page 378]

New York County

At the meeting of the society on January 26 Dr. Maximilian A. Ramirez announced, in his inaugural address, the organization of a physicians' war council by the county society. The council will attempt to organize and mobilize the professional forces in the county in a practical manner so as to cooperate effectively with the Director of Civilian Defense.

On the committee are Dr. Ramirez, chairman, Drs. Condict Cutler, Adolph DeSanctis, Ernst P. Boas, James Alexander Miller, and Herbert Wilcox.

Mr. Paul V. McNutt, Federal Security Administrator, addressed the physicians on War and Health. He said that nearly 25,000 physicians would be needed for an Army of 3,600,000 men, and he added that "our Army may double or, if necessary treble, that figure before it is through."

Dr. Alfred M. Hellman, retiring president, outlined the activities of the society for the past year.

Oneida County

Officers elected at the annual meeting on January 13 are: Dr. R. Sloan, president, Utica; Dr. B. F. Golly, vice-president, Rome; Dr. J. I. Farrell, secretary, Utica; Dr. W. F. Coxon, Jr., assistant secretary, Utica; Dr. H. D. MacFarland, treasurer, Utica; and Dr. T. Wood Clarke, librarian, Utica.

Censors are: Dr. F. T. Owens, chairman, Utica; Dr. J. B. Lawler, Vernon; Dr. A. F. Gaffney, Oriskany Falls; Dr. H. N. Squier, Utica; and Dr. L. E. Sprout, Rome.—*James I. Farrell, M.D., Secretary.*

See page 373 for postgraduate course.

Schuyler County

The 1942 officers are as follows: president, John William Burton, Mecklenburg; vice-president, Washington Merscher, Watkins Glen; secretary and treasurer, Oakley A. Allen, Watkins Glen; delegate, Joseph Youmans Roberts,

Watkins Glen; and alternate, Christian William Schmidt, Burdett.

Suffolk County

At the annual meeting of the society, held October 22, the following officers were elected for the year 1942: president, Dr. David Corcoran, Central Islip; first vice-president, Dr. Archie Baker, Lindenhurst; second vice-president, Dr. Frank Holmberg, Sag Harbor; secretary, Dr. Edwin P. Kolb, Holtsville; assistant secretary, Dr. Willetts W. Gardner, Patchogue; and treasurer, Dr. Grover A. Silliman, Sayville.

Censors are: Dr. Paul Nugent, Easthampton; Dr. Leon Barber, Patchogue; Dr. Louis Gerben, Islip; Dr. George Thompson, Southold; and Dr. Cyril Drysdale, Northport.

Delegates to the State Society are: Dr. John L. Sengstack, Huntington, and Dr. Coburn A. L. Campbell, Port Jefferson.

Delegate to Second District Branch is Dr. William H. Ross, Brentwood.—*Edwin P. Kolb, M.D., Secretary.*

Wyoming County

A joint meeting of the county society and the members of the staff of the Wyoming County Community Hospital was held on January 14 at the sanitarium. Dr. Mary Greene was hostess. Following dinner a meeting was held in the gymnasium with Dr. Paul A. Burgeson, president of the society, presiding.

Dr. W. D. Johnson, Batavia, as guest speaker began his talk by saying that instead of being a specialist who knew more and more about less and less, he had become a man who knew less and less about more and more!

Yates County

The officers of the county society for 1942 are: president, Dr. Allen Wheeler Holmes, Penn Yan; vice-president, Dr. Walter G. Hallstead, Penn Yan; secretary and treasurer, Dr. Robert F. Lewis, Penn Yan; delegate, Dr. Bernard S. Strait, Penn Yan; alternate, Dr. G. Howard Leader, Penn Yan.—*Robert F. Lewis, M.D., Secretary and Treasurer.*

Deaths of New York State Physicians

Name	Age	Medical School	Date of Death	Residence
Walter S. Bennett	62	Johns Hopkins	January 10	Brooklyn
Vito Caronna	59	Naples	December 25	Brooklyn
Allyn K. Foster, Jr.	36	Rush	January 17	Manhattan
Henry D. Furniss	63	Virginia	January 25	Manhattan
Joseph S. Lewis	61	Johns Hopkins	January 21	Elmira
John A. Miller	77	P. & S. N. Y.	January 18	Roscoe
Edward S. Pope	60	Jefferson	January 23	Manhattan
George C. Reid	63	Baltimore Med.	January 8	Rome
Theodore F. Segelecke	65	L. I. C. Hospital	January 13	Ridgewood
Alfred S. Taylor	73	P. & S. N. Y.	January 16	Manhattan
Ettore Tresca	74	Naples	January 15	Manhattan
Albert F. Ullman	52	Berlin	January 20	Manhattan
Jefferson B. Van Tine	70	P. & S. N. Y.	January 22	Manhattan
Raymond R. Westover	—	P. & S. N. Y.	January 12	Brooklyn
Julius Wolff	72	P. & S. N. Y.	Jan.	—

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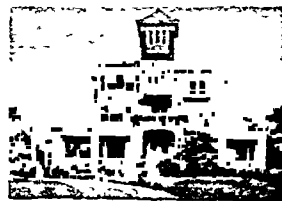
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Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N. Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and interest to our readers.

RECEIVED

Functional Pathology. By Leopold Lichtwitz, M.D. Octavo of 567 pages, illustrated. New York, Grune & Stratton, 1941. Cloth, \$8.75.

The Treatment of Infantile Paralysis in the Acute Stage. By Elizabeth Kenny. Octavo of 285 pages, illustrated. Minneapolis, Bruce Publishing Company, 1941. Cloth, \$3.50.

Administrative Medicine. Haven Emerson, M.D., Editor. Quarto of 839 pages, illustrated. (Looseleaf.) New York, Thomas Nelson & Sons, 1941. Cloth, \$7.50.

Arthritis in Modern Practice. The Diagnosis and Management of Rheumatic and Allied Conditions. By Otto Steinbrocker, M.D. Octavo of 606 pages, illustrated. Philadelphia, W. B. Saunders Company, 1941. Cloth, \$8.00.

Gynecology and Female Endocrinology. By Emil Novak, M.D. Octavo of 605 pages, illustrated. Boston, Little, Brown & Company, 1941. Cloth, \$10.

Subacute Bacterial Endocarditis. By Emanuel Libman, M.D., and Charles K. Friedberg. Edited by Henry A. Christian, M.D. (Reprinted from Oxford Loose-Leaf Medicine.) Octavo of 108 pages, illustrated. New York, Oxford University Press, 1941. Cloth, \$2.75.

Gynecological Operations. By J. Lyle Cameron, M.D. Octavo of 200 pages, illustrated. New York, Oxford University Press, 1941. Cloth, \$5.50.

Surgical Diseases of the Spinal Cord, Membranes, and Nerve Roots. Symptoms, Diagnosis, and Treatment. By Charles A. Elsberg, M.D. Quarto of 598 pages, illustrated. New York, Paul B. Hoeber, Inc., 1941. Cloth, \$14.

The Medical Clinics of North America. November, 1941. Military Medicine. Three-Year Cumulative Index, Volumes 23, 24, and 25. Volume 25, Number 6. Octavo. Philadelphia, W. B. Saunders Company, 1941. Published Bi-Monthly (six numbers a year). Cloth, \$16 net; paper, \$12 net.

Eye Hazards in Industry: Extent, Cause, and Means of Prevention. By Louis Resnick. Published for the National Society for the Prevention of Blindness. Octavo of 321 pages, illustrated. New York, Columbia University Press, 1941. Cloth, \$3.50.

Workmen's Compensation and the Physician. A Manual for the Use of General Practitioners and Insurance Carriers. By Henry H. Jordan, M.D. Octavo of 180 pages. New York, Oxford University Press, 1941. Cloth, \$3.00.

From Cretin to Genius. By Dr. Serge Voronoff. Octavo of 281 pages. New York, Alliance Book Corporation, 1941. Cloth, \$2.75.

Perineopelvic Anatomy. From the Proctologist's Viewpoint. By R. V. Gorsch, M.D. Octavo of 298 pages, illustrated. New York, The Tighman Company, 1941. Cloth, \$8.00.

Blood Disorders in Children. By I. Newton

Kugelmass, M.D. Octavo of 897 pages, illustrated. New York, Oxford University Press, 1941. Cloth, \$10.

Air Raid Defense (Civilian). By Curt Wachtel. Octavo of 240 pages, illustrated. Brooklyn, Chemical Publishing Company, 1941. Cloth, \$3.50.

Immunology. By Noble P. Sherwood, M.D. Second edition. Octavo of 639 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$6.50.

The Toxemias of Pregnancy. By William J. Dieckmann, M.D. Octavo of 521 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$7.50.

Synopsis of Genitourinary Diseases. By Austin I. Dodson, M.D. Third edition. Duodecimo of 302 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$3.50.

Diseases of the Nervous System Described for Practitioners and Students. By F. M. R. Walshe, M.D. Second edition. Octavo of 325 pages. Baltimore, Williams and Wilkins Company, 1941. Cloth, \$4.50.

Synopsis of Allergy. By Harry L. Alexander, M.D. Duodecimo of 246 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$3.00.

Treatment of the Patient Past Fifty. By Ernst P. Boas, M.D. Octavo of 324 pages, illustrated. Chicago, The Year Book Publishers, 1941. Cloth, \$4.00.

Textbook of General Surgery. By Warren H. Cole, M.D., and Robert Elman, M.D. Third edition. Quarto of 1067 pages, illustrated. New York, D. Appleton-Century Company, 1941. Cloth, \$8.00.

Diseases of the Veins and Lymphatics of the Lower Extremity. By C. H. Verovitz, M.D. Octavo of 392 pages, illustrated. Boston, The Christopher Publishing House, 1941. Cloth, \$6.00.

Surgical Practice of the Lahey Clinic, Boston, Massachusetts. Octavo of 897 pages, illustrated. Philadelphia, W. B. Saunders Company, 1941. Cloth, \$10.

The March of Medicine. New York Academy of Medicine Lectures to the Laity, 1941. Octavo of 154 pages. New York, Columbia University Press, 1941. Cloth, \$2.00.

The New International Clinics. Original Contributions: Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume IV, New Series Four. Quarto of 314 pages, illustrated. Philadelphia, J. B. Lippincott Company, 1941. Cloth, \$3.00.

Essentials of Gynecology. By Leo Brady, M.D., and Ethna L. Kurtz, R.N. Octavo of 257 pages, illustrated. New York, Macmillan Company, 1941. Cloth, \$2.75.

NEW YORK STATE JOURNAL OF MEDICINE

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Editorial

Rehabilitation of Rejected Selectees

"It is obvious," said Colonel Samuel J. Kopetzky, M.C., in an address delivered before the National Conference on Medical Service,¹ that "The army cannot use any man who cannot withstand the rigors of military service, nor does it want to induct any man who might become a liability, not alone to the government, but also to his community, to say nothing of an ensuing and continuing handicap to himself and his family for the remainder of his life.

"It is true enough there were many rejections. . . . In various quarters of our broad land there were some who seized upon the figures and made superficial deductions that, because of these figures, the health level of our people was 'appallingly low.' Such deductions were broadcast . . . in spite of the known fact that the health level of our people was higher than anywhere else in the world, with a mortality and morbidity record second to none.

"During the preparedness program (in the New York City area) percentages of rejections amounted to 23.64 per cent, this figure including absolute rejections at both the local board examining teams and the medical advisory board team, and also the army examining teams. There were an additional number . . . approximately 32 per cent, who were classified for limited service. . . ."

"It is found that with each added year the individual registrant shows more deficiencies. The figures are extremely interesting . . . 41.36 per cent of rejections in the age group under 25 years of age, 64.09 per cent of rejections in the age group 31 years and over . . . a differential which amounted to 22.73 per cent. . . . I have the right to deduce that the percentages of rejections in the new registration which is about to be undertaken, and which will embrace man power up to the end of the forty-fourth year, will be still larger, provided the physical standards for qualifying for full military service remain as they are now."

Undoubtedly, the rejection figures for the new group of selectees in the 20-45 age group will provoke new outbursts in the near future and proposals for legislative correctives to remedy the situation. Much talk is even now heard of a rehabilitation program. The purpose of such a program would be to make the unfit fit for the rigors of full military duty.

"It is interesting," says Colonel Kopetzky of the pilot experiment in rehabilitation conducted by him in New York City, "that 5.9 per cent of the rejectees were found being attended by practicing doctors and dentists or desiring to be referred to them. *The private practice of medicine and dentistry still enjoys public confidence.* Four per cent desired to be

¹ Rejected Selectees and Their Rehabilitation for Active Military Service, Chicago, February 15, 1942.

referred to public clinics mostly because they were financially handicapped Eight per cent of those who permitted a review of their physical examination forms absolutely refused to accept remedial therapy.

"Does it not seem wise," he asked, "to set up some machinery now whereby physically fit men at present serving in non-combat unit positions are relieved of these posts, and assigned to fighting units, and to fill the vacancies thus created by the induction of registrants now classified in 1-B? There is under way in the area of New York City an effort at rehabilitation of all 1-B men. Unhappily, most of these men cannot be made to meet the qualifications set for 1-A. They would still be poor combat material."

According to the *J.A.M.A.* of Janu-

ary 31, 1942, a rehabilitation program is to be initiated in Virginia and Maryland following somewhat along the lines of the pilot experiment in New York City, the pertinent results of which have been outlined by Colonel Kopetzky in his Chicago address. The statistical results will be awaited with much interest.

The purpose of any rehabilitation program should be to provide physically fit man power for the armed forces. Whether the problem should be approached and handled directly by the army or in some other manner seems open to debate. No reliable statistical data are yet available, to our knowledge, to indicate how successful any program could be in providing acceptable rehabilitated men for combat service under present rigid army physical requirements.

Waste of Man Power

At this time when every effort is being made to utilize the young, physically fit man power of the country for the armed forces, it is discouraging to contemplate the accident death toll in relation to age groups.

"One death in every three among youths and young men is the result of accident.¹ This striking fact may be set down as one penalty of our modern, mechanical way of life. For, while we have been eminently successful in reducing the death rate from disease, we have not been equally efficient in protecting ourselves against the hazard of accidental death, to which mechanical devices, and in particular the automobile, contribute so greatly. And so we find ourselves today with the startling ratio of 33 per cent of all deaths among young

males attributable to various types of accidents."

Whether the new restrictions on the manufacture of automobiles will alter this record seems debatable. At any rate, the annual toll is appalling. "At all ages combined, deaths by accident in the United States, 1937 to 1939, amounted, in round numbers, to 97,000 annually, and constituted 8.7 per cent of all deaths among males and 4.6 per cent among females."

Accidents apparently rank first as a cause of death among men over the broad range of ages 5 to 39. Some, at least, of this waste of man power is preventable, and it is to be hoped that the current necessity for conserving man power for the armed forces and for the all-important operations of industry will lend added impetus to the accident prevention movement.

¹ Statistical Bull., Met. Life Ins. Co. 23: No. 18 (Jan.) 1942.

To the Ladies!

Today, women all over the country are doing magnificent work in defense organizations. They deserve great credit. But, year in and year out, a group within our own state has been quietly making a valuable contribution both to organized medicine and to their own communities. We salute the Woman's Auxiliary to the Medical Society of the State of New York.

In adhering rigidly to the words of one member, "Remember always that we are just an auxiliary," they have sought no recognition, but their modesty has not obscured from us their significant work. A glance at the Auxiliary page in any issue of the JOURNAL reveals the scope and importance of their activities:

"Card party netted \$114 for Bundles for Britain."

"\$70 raised to purchase slide for underprivileged children's playground."

"Hygeia to be placed in the high schools of the city."

"3,000 hours of Red Cross work credited to the auxiliary."

"Committee appointed to assist tuberculosis project."

"Mental Health Institute sponsored last month."

"Two girl scout scholarships given."

"Toys bought for children in foster homes."

"Two Gatch beds to be presented to hospital."

"Health Forum sponsored by auxiliary a big success."

"Check sent to the Physicians' Home."

"Nutrition and First-Aid classes held."

"Speaker provided for Parent-Teachers Association."

It would be much easier to lengthen this list than to shorten it—for the reports include many other worthy causes and it is not possible to mention all of them. In addition to these activities, there is another contribution too valuable to be overlooked—namely, the friendliness created between physicians and families of physicians. One county writes: "We have decided to meet every month instead of the six times a year, for we feel that we will be more closely united not only as an auxiliary to the Medical Society but as *friends*."

At the annual meeting next month you will be able to say in person what we are now saying in print, but before then—perhaps even tonight across the dinner table—you might have an opportunity to salute one member of an organization that has won our unanimous admiration.

It isn't too early....

.... to make your reservations for the 1942 Annual Meeting: April 27-30, New York City. Headquarters will be at the Waldorf-Astoria Hotel. The program is one that you will *not* want to miss.

Correspondence

Rectal vs. Parenteral Administration of Sulfanilamide

To the Editor:

In a discussion of "The Treatment with Sulfonamide Drugs" (*New York State J. Med.* 42: 260, Feb. 1, 1942), Dr. Norman Plummer states that "following rectal instillation, all of the sulfonamide drugs are poorly absorbed. However, this applies to the sodium salts to a lesser degree. There seems to be little or no indication for the rectal use of the sulfonamide drugs, and this mode is to be discouraged." I cannot agree that "all of the sulfonamide drugs are poorly absorbed" for I have shown that sulfanilamide is well absorbed following the rectal administration (*Ann. Surg.* 112: 417, Sept., 1940; *Internat. Clin.*, in press). Strauss, Lowell, Taylor, and Finland (*Ann. Int. Med.* 14: 1360, Feb., 1941) and Wood (*Canad. M. A. J.* 44: 592, June, 1941) have confirmed the absorption of sulfanilamide after its rectal administration. The concentration of sulfanilamide in the blood fol-

lowing administration by rectum is sufficiently high to recommend this route when oral introduction is not possible.

Because of the foregoing and especially because of the present war conditions, I cannot see why "this mode (of administration) is to be discouraged." In hospitals situated in combat zones or in bombarded cities, the rectal administration of medication is definitely easier and simpler in execution and, therefore, preferable to the parenteral routes. Whereas, the subcutaneous or intravenous (parenteral) routes of administration of sulfanilamide demand sterile armamentarium, an aseptic technic, and the services of a physician, the rectal administration does not require asepsis and can be entrusted to a trained nurse (*Annotations, Lancel* 239: 656, Nov. 23, 1940).

February 2, 1942

Sincerely yours,
ROBERT TURELL, M.D.

DR. PLUMMER'S REPLY

To the Editor:

I am familiar with Dr. Robert Turell's study on the absorption of sulfanilamide from the large intestine and the rectum, and I appreciate his criticism of my remarks. However, I am not in full accord with him.

A number of investigators have shown that the sulfonamide drugs are absorbed chiefly from the small intestine and that the absorption is more rapid and more uniform from this region than from the colon. For example, Stead and Kunkel (*Am. J. M. Sc.* 199: 680, 1940) in a study on human subjects observed that when 300 cc. of 1 per cent sulfanilamide solution was injected into the duodenum through the Rehfuß tube, a level of 6 to 8 mg. per hundred cubic centimeters was obtained in the blood in ten to thirteen minutes. On the other hand, the same amount of drug when injected into the colon produced a blood level of from 2.4 to 4.0 mg. per hundred cubic centimeters in one and one-half hours. Such dissimilarities following oral

and rectal administration are much greater with sulfapyridine, sulfathiazole, and sulfadiazine than with sulfanilamide.

It is my impression that Dr. Turell has exaggerated the practicability of rectal therapy and the impracticability of the parenteral therapy. At the present time in most hospitals, the rectal administration of the sulfonamide drugs is not frequently used. This is the case because, in addition to the irregularities and uncertainties of absorption, there are the problems of retention of the drug. Parenteral treatment, on the other hand, has reached a point where it is usually a simple procedure and gives accurate and certain results. I agree with Dr. Turell regarding the changing times and that war conditions may require an alteration in our methods of treatment. Under the more usual conditions, however, I believe that the rectal use of the sulfonamide drugs is to be discouraged.

February 10, 1942

Yours sincerely,
NORMAN PLUMMER, M.D.

P. & A. SERVICE

Official information from the Procurement and Assignment Service for Physicians, Dentists and Veterinarians, published in the *J.A.M.A.*, February 21, 1942, will be reprinted in the March 15 issue of the *JOURNAL*.
—Editor

PRINCIPLES UNDERLYING THE TREATMENT AND MANAGEMENT OF CORONARY DISEASE

FREDERICK A. WILLIUS, M.D., Rochester, Minnesota

FOR the intelligent treatment and management of a disease it is necessary to possess more than an acquaintance with the clinical features that permit its recognition. Unless knowledge regarding the disease is comprehensive it is impossible to expect the application of sound therapeutic measures, and under such circumstances empiricisms of a bygone era become revived. I am led to believe that such a therapeutic philosophy exists to a considerable degree in the present-day treatment of coronary disease. It is, therefore, extremely important that a conception be acquired which will permit the physician to appreciate the value, as well as the limitations, of therapeutic measures and their changing order of importance from case to case and also to realize the fact that nature is a great physician and that many times meddlesome, although well-intended, therapeutic intervention hinders or thwarts nature's efforts. It is not my intention to appear to be a therapeutic pessimist but rather to face the facts openly and attempt to appraise the problem as it confronts us today.

Coronary disease signifies arteriosclerosis of the coronary arteries. This process occurs variously in different patients and, as it progresses, displays multiple digressions that not only determine the resulting clinical phenomena of the disease but also profoundly influence the possible response to therapeutic measures and, therefore, dictate their indication or contraindication.

The efficiency of the heart is pre-eminently dependent on the adequacy of its blood supply, because this is directly the manner in which the respiration of the myocardium is maintained. Considerable variation occurs in the degree and extent of involvement of the coronary arteries among different patients. The main arteries and their larger tributaries are most commonly involved. The coronary arterioles remain remarkably free of pathologic alterations, even in diseases that are notoriously associated with arteriolar changes elsewhere in the body, such as so-called malignant hypertension.¹

Thus, the symptoms that the individual displays depend considerably on the extent, the degree, and the nature of the arterial involvement. The element of time is extremely important in the determination of a patient's destiny in the presence of coronary disease.

Blumgart, Schlesinger, and their associates^{1,2} and Smith³ of the Mayo Foundation have shown the beneficent effects of the development of collateral circulation of the myocardium, where single or multiple arterial tributaries have become completely or partially occluded. Under such circumstances a remarkably adequate myocardial nutrition may be maintained, the encompassing anastomosis acting as a by-pass in the region of the arterial occlusions. At times, new communications are surprisingly extensive, bridging the gap between main trunks and even resulting in new communications between branches of the right and the left ventricles. Such findings have been revealed in patients exhibiting no symptoms of coronary disease or whose symptoms were extremely attenuated.

In a discussion of the treatment and management of coronary disease it becomes necessary to consider its various clinical expressions. Under all circumstances it is of utmost importance to individualize the regimen to the needs of the patient and to avoid the undesirable consequences of routine treatment. Obviously, the first thought in the management of a patient is to limit the demands placed on the impaired heart, well within the threshold of its ability to respond. The adequate fulfillment of this premise may dictate a prolonged period of complete rest in bed in one case, whereas only moderate restriction of activities may be necessary in another. The physician must never overlook the fact that the patient who candidly confesses his subjective status knows better than anyone else the comfortable and, therefore, safe limits of his activity. Any degree of activity which recurrently causes insufficiency of the coronary circulation is hazardous and certainly defeats any attempt at therapy.

The anginal syndrome is the most common manifestation of coronary disease and is one that presents innumerable therapeutic ob-

Read by invitation at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 30, 1941.

From the Section on Cardiology, the Mayo Clinic.

stacles because its symptoms are paroxysmal in character, usually bearing a definite relationship to one or many factors capable of imposing increased demands on the heart, and because the patient who is not necessarily incapacitated refuses to observe the prescribed program. This syndrome is indicative of recurrent periods of myocardial anoxia which occur when demand exceeds supply, and the inescapable fact must be borne in mind that this signifies changes in the coronary arteries which are permanent and usually progressive and that no form of therapy available today is capable of altering the pathologic changes. In addition to structural arterial changes, the associated element of vascular spasm must be considered—not the spasm of the larger and diseased tributaries but of the arterioles of contiguous or neighboring vessels. This idea is sponsored by the sudden and dramatic termination of the painful seizures which, at times, is witnessed following the administration of such proved vasodilators as the nitrites and alcohol. However, cardiac economy, permitting an approximation of supply and demand, not only serves to foster comfort and safety but also enables the potential powers of the heart to establish collateral circulation.

When the myocardium is subjected to lower thresholds of oxygen for long periods or to marked deprivations of oxygen for shorter but recurrent periods, it responds by myofibrosis. This reaction may occur in localized areas related to the distribution of certain arteries, or it may become widely scattered as a diffuse process. Under these circumstances a stage is finally reached in which, even in spite of nature's attempt at establishment of collateral circulation, the functional capacity of the myocardium becomes impaired to such an extent that congestive heart failure becomes inevitable.

The nitrites and alcohol, judiciously employed, are of great value in supplementing the individualized regimen in the anginal syndrome. These agents, however, must not be used to extend the threshold of the patient's comfort, for such a procedure is fraught with great danger for the majority of patients. The xanthines, such as theophylline, theobromine, aminophylline, and the like, are extensively used, but their efficacy when administered orally is controversial. They are frequently administered in combination with sedative agents such as phenobarbital and sodium amytal, and it is probable that the resulting mild sedation is an impor-

tant influence in the improvement obtained. The simple expedient of prescribing sedative agents alone will tend to be rather convincing, for the advantages of lowered tension in the nervous system are acknowledged. Other factors of management occur, such as the judicious reduction of weight in obesity, the avoidance of overeating and imperfect mastication, the elimination of flatulent foods, rest periods after meals, regularity of bowel elimination, reduction in or discontinuation of tobacco, and the like.

It is a well-known fact that exertion in extremely cold weather more readily precipitates the anginal syndrome. Many patients experience their initial attacks under these conditions. This observation is dependent on a definite physiologic reaction. No doubt exists that the arterioles of the skin constrict when exposed to low temperature, as evidenced by blanching and actual reduction of the cutaneous temperature. Even in normal persons, exertion in cold weather tends to increase the depth and frequency of the respiratory excursions, with the result that the inspired air fails to reach body temperature when it enters the alveoli of the lungs. Thus, the arterial periphery of the lungs responds as does that of the skin, and vasoconstriction occurs and increases not only the load of the right side of the heart but also interferes with the prompt and adequate dissemination of oxygen into the pulmonary arteries. The simple expedient of covering the patient's nose and mouth with a porous muffler frequently will eliminate this factor.

I do not wish to discuss the various radical surgical procedures that have from time to time been recommended in the alleviation of the anginal syndrome because they have been extremely disappointing. Paravertebral nerve injection with absolute alcohol has some value in a limited group of cases in which all other measures fail and in which the painful seizures are frequently recurrent even under physical rest. This method of treatment is by no means universally successful and, at times, is complicated by intolerable neuritis. I shall not attempt to discuss the almost countless procedures and remedies that have come and gone, but, rather, I shall emphasize again the importance of realization of the pathologic changes responsible for the anginal syndrome and plead for a conservative and rational program of therapy.

Sudden obstruction of a coronary artery from one of several causes with ensuing acute infarction of the myocardium is no longer a

rare complication of coronary arteriosclerosis. It occurs most commonly as a result of thrombosis but may also result from hemorrhage into the wall of an arteriosclerotic artery, resulting in complete closure of the vessel at that point, or from the rupture of an intimal atherosclerotic abscess and the sudden discharge of lipid particulate matter into the lumen of the vessel, or less frequently from an embolus. The ensuing symptoms are largely dependent on the rapidity with which vascular closure occurs but are also dependent on the presence or absence of avenues of collateral circulation. When collateral circulation has been established, the final and frequently sudden vascular closure may permit the myocardium to escape acute infarction.

In the treatment of acute cardiac infarcts let us again be governed by realities. White and Patmos⁶ at the Mayo Clinic and, later, P. D. White and his coworkers³ have clearly demonstrated the sequences of acute myocardial infarcts. In general, these histopathologic studies showed that when death occurred within two to four hours regions of focal degeneration of the heart muscle were present and were associated with cloudiness, pyknosis of nuclei, diminution of the transverse striations, interstitial edema and congestion of the blood vessels. Infarcts from four hours' to five days' duration exhibited complete necrosis and acute inflammation. The necrotic portions were found to coalesce, and numerous polymorphonuclear leukocytes were present around the edges. A few lymphocytes, mononuclear leukocytes, and extravasated erythrocytes were present. The polymorphonuclear leukocytes first appeared within the adventitia of small vessels, and they gradually increased in number during the succeeding four or five days. In infarcts that were of two days' duration, phagocytosis of necrotic debris was well under way. Cellular changes, varying from hyaline to granular degeneration, were noted. Fibroblasts were observed occasionally at the margins of the necrotic portions of the infarcts after thirty-six hours, but they were not plentiful until the fifth day.

Infarcts from five to twenty-two days' duration, and even more, gave evidence of rapid disappearance of the inflammatory reaction and gradual replacement by connective tissue. Fibroblasts were particularly plentiful near newly formed blood vessels and, when the infarcts were of nine days' duration, they were abundant and the necrotic portions were greatly diminished. After twenty-two days,

regions of diffuse fibrosis were present. In infarcts from four to six months' duration, condensation and contraction of the fibrous scar were present; they represented complete healing. The prompt and adequate development of collateral circulation is without a doubt an important determinant in the prompt and uninterrupted healing of infarcts.

These facts clearly indicate the basic therapeutic premise for acute myocardial infarcts. The early recognition of the condition is of utmost importance, so that complete rest in bed can be promptly enforced. When complete rest is not imposed, serious and irreparable eventualities may ensue which include early congestive failure with or without the previous development of ventricular aneurysm.

In the majority of cases acute infarction of the myocardium is attended by severe and protracted pain, and it is important to afford the patient relief as soon as possible. Subcutaneous administration of an adequate dose of morphine sulfate ($\frac{1}{4}$ to $\frac{1}{2}$ grain or 0.016 to 0.032 Gm.) is generally accepted as the proper procedure and, if relief is not forthcoming within a reasonable period, an ounce (30 cc.) of whiskey taken by mouth frequently will result in dramatic relief. The vasodilating action of alcohol is well known and in this case, when attended by relief of pain, undoubtedly relieves associated spasm of regional small arteries and arterioles. When these procedures fail, the indication for rather continuous administration of high-tension oxygen becomes apparent.

A fundamental biologic phenomenon is concerned in this consideration, and it is one that appears on occasions to be overlooked—the process of healing. Throughout the body, regardless of whether the condition is a fractured bone, a cut or operative incision, a destructive inflammatory lesion, or a burn, repair is effected by the development of connective tissue and revascularization. Under the circumstances just enumerated it is possible, in most instances, completely to immobilize the parts, thus greatly enhancing the healing process. This advantage is denied in the healing of myocardial infarcts because the heart cannot be immobilized, but a considerable advantage can be gained by placing the patient at complete rest in bed, without any privileges of activity, for periods of at least six weeks or longer as the indications in the individual case may dictate. It is of great importance to attain both physical and mental relaxation after comfort has again been restored to the patient, and it is at this point

that well-tolerated sedative agents may be employed judiciously. When none of the modern preparations are well tolerated—which occasionally occurs, particularly among elderly patients—the careful administration of tincture of opium proves a blessing.

Unless complications intervene, such as significant disturbances in rhythm, recurrent pain, arterial emboli, pulmonary edema, or congestive heart failure, the role of the physician should be that of an alert but patient spectator. Only too often, well-intended but meddling therapy not only retards but endangers the patient's recovery. It is at this juncture that I wish to decry the use of digitalis, except in certain definite and, fortunately, uncommon situations. The physician who is cognizant of the true actions of digitalis will not be tempted to administer it, but the physician whose faith in this drug is empiric will not be dissuaded and may thereby directly contribute to the patient's delayed recovery or death. The prime indication for digitalis in coronary thrombosis is the advent of congestive heart failure, and even when that occurs I first resort to other measures, such as the administration of mercurial diuretic agents, hypertonic dextrose solution administered intravenously, and oxygen, before resorting to digitalis. Digitalis and heart disease, regardless of its nature, still seem to be inseparable and, although digitalis is one of the most important cardiac drugs in existence, it must, like all other drugs, be prescribed with understanding and intelligence.

Administration of quinidine sulfate at times is necessary, particularly in the control of ectopic rhythms, but it should not be rou-

tinely administered. It must be remembered that ventricular fibrillation is a terminal mechanism even in the unimpaired heart, and dramatic allegations embodying insistence on the routine use of this drug are no longer tenable.

When the time arrives for the patient to leave his bed, a crucial stage in the regimen confronts the physician. A cautious and flexible plan of gradual rehabilitation must be outlined, and it is in such circumstances that alert observation is of great importance. The gradual resumption of restricted activity must be effected without the production of symptoms. The time consumed obviously varies in different cases. The temperament of the patient and the nature of his work must determine his convalescence. Certain individuals may safely return to at least part-time duty in four or five months, whereas others may be obliged to remain away from work for a year or more or permanently. Here, again, the individualization of program becomes of paramount importance. In all cases, I believe, the patient must always adhere to reasonable restrictions. He must never revert to the natural abandon with which he carried himself before he had occlusion but should contentedly accept a *sang-froid* attitude of a protective philosophy.

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CHANGE OF ADDRESS—WORKMEN'S COMPENSATION LAW

It is imperative that the office of the Compensation Medical Registrar of the Department of Labor, 80 Centre Street, New York City, and this office, be notified of all changes of address of physicians authorized to practice under the Workmen's Compensation Law. Such change of address, or the address of an additional office established by a physician, should be sent promptly so that our records and those of the Department of Labor may be complete. Physicians who enter the Service and give up their offices should be instructed to notify the Department of Labor and this office at once. If a substitute or locum tenens is appointed, it would be advisable to send this information to this office.

Secretaries of the county medical societies or chairmen of workmen's compensation boards or committees should bring to the attention of the membership of the Society, by all available avenues of publicity, the importance of sending this information to the proper authorities at once. This office and the Department of Labor are frequently called upon to provide lists of physicians at the request of employers, and it is important that our lists be up to date and accurate.

Will you kindly give this matter your attention?

—DAVID J. KALISKI, M.D.
Director

January 13, 1942

FOLLOW-UP STUDIES IN CORONARY ARTERY OCCLUSION

I. Degree of Recovery, Symptoms, and Physical Signs

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IN RECENT years a number of reports¹⁻³ on the follow-up course after acute coronary occlusion have shown that not only has the immediate prognosis of the acute attack improved but also the outlook for subsequent survival and rehabilitation is surprisingly good. As early as 1912 Herrick⁴ stated that "complete, that is, functionally complete, recovery ensues" in some instances, and at the present time complete recovery is commonly observed by those treating patients with this disease. In the first follow-up report on a large series of cases Conner and Holt¹ observed that a high percentage of patients remained in "good health" for at least one to five years. Numerous other authors⁵⁻¹⁹ have since reported a high incidence of survival for many years, as well as of complete functional recovery with little or no restriction of activity, particularly in the younger age groups.

In a previous investigation²⁰ we made the first detailed analysis of the degree of economic restitution in a series of 415 patients who had recovered from acute coronary occlusion, and we found that actually one-half returned to full- or part-time work within three to twelve months after discharge. The remaining patients were physically disabled by angina pectoris, dyspnea, or weakness. Complete clinical recovery was common, especially in patients under 40. These findings were corroborated by Segall.²¹ In the present study we are reporting in detail on the clinical status as determined by symptoms and physical examination in 202 of the above patients, insofar as they relate to cardiac function and prognosis.

Material

This study includes 202 patients treated in the Mount Sinai Hospital for acute coronary occlusion who survived the attack at least one year. The longest follow-up period was six years, the average being three years. Following discharge, the patients returned regularly for examination in the follow-up clinic at three- to twelve-month intervals. They were ques-

tioned with regard to the presence of chest pain, dyspnea, weakness, and the ability to walk, work, and carry on their daily activities. The occurrence of another attack of coronary occlusion or of heart failure was ascertained. In the physical examination attention was paid to the presence of dyspnea, orthopnea, cyanosis, signs of heart failure, the quality and intensity of the heart sounds, heart size, heart rate and rhythm, and blood pressure. In later reports we shall present the results of objective tests to determine the state of cardiac function, including the vital capacity, the two-step exercise tolerance test, the teleroentgenogram for the size and shape of the heart, the fluoroscopic and roentgenkymographic study of ventricular contraction, and the electrocardiogram. An attempt was made to correlate each test with the functional capacity of the patient and degree of clinical recovery.

The series consisted of 167 men and 35 women (Table 1), a ratio of 4.8:1. The incidence of men is slightly higher than the ratio of 3.4:1 during the acute attack.²² Sixty-seven patients were under 50 years, 90 were 50 to 59 years, and 45 were 60 years or over. This age distribution also differs slightly from that obtained during the acute stage of coronary occlusion,²² in that there were fewer patients over 60 and a greater number under 50 years. This may be attributed to the lower survival rate of the older patients during and after the acute attack and emphasizes the better prognosis in the younger age groups. Two-thirds of the patients had sustained their initial attack of occlusion; one-third had had two or three attacks prior to the follow-up period. The acute attack, personally observed by us in the hospital, had been mild in 45, moderately severe in 118, and severe in 39.

Results

A. *Degree of Clinical Recovery.*—The functional capacity of each patient was determined by his subjective response to effort. Two-fifths of the patients showed no, or only slight, restriction of physical activity—that is, angina pectoris, dyspnea, and fatigue were absent or mild in these patients (Table 2).

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 30, 1941.

From the Cardiographic Laboratory and the Medical Services, Mount Sinai Hospital.

TABLE 1.—AGE AND SEX DISTRIBUTION (202 CASES)

Age Group	No. of Cases
30-39	18
40-49	49
50-59	90
60-69	39
70-79	6
Sex	
Men	167
Women	35

TABLE 2.—DEGREE OF CLINICAL RECOVERY (202 CASES)

	No. of Cases	Per-centage
Functional Capacity*		
Unrestricted	34	17
Slightly restricted	47	23
Moderately restricted	57	28
Markedly restricted	64	32
Recovery†		
Good	63	31
Fair	56	28
Poor	83	41

* Determined by subjective response to effort.

† Summary of symptoms, physical examination, and objective tests.

TABLE 3.—INCIDENCE AND SEVERITY OF ANGINA PECTORIS (202 CASES)

	Prior to Attack	Following Attack
None	83 (41%)	78 (38.5%)
Mild	65 (32%)	44 (22%)
Moderate	52 } (26.5%)	56 } (39.5%)
Severe	2 }	24 }

TABLE 4.—COMPARISON OF ANGINA PECTORIS BEFORE AND AFTER ATTACK (202 CASES)

	Angina Pectoris After Attack	Present
53 Patients without previous angina pectoris	42 (51%)	41 (49%)
119 Patients with previous angina pectoris	36 (30%)	83 (70%)
	78	124

From a summary of the symptoms, physical examination, and several objective tests of cardiac function, the degree of recovery of each patient was classified as good, fair, or poor. In Table 2 it is seen that recovery was good in 31 per cent, poor in 41 per cent of the patients, and fair in the remainder. In other words, almost one-third of the patients recovered practically completely and were able to lead a fairly normal life. This is a high incidence in view of the fact that a good number of patients had been physically disabled by chronic coronary sclerosis or previous attacks of occlusion prior to the observed attack. The incidence of 31 per cent good recoveries in our series is surprisingly close to that reported by Palmer,¹⁶ who found that 29 per cent of his patients were able to lead fairly active lives. Padilla and Cossio¹⁰ also reported clinical cures in 29 per cent of cases

after six months. However, the observation of Cooksey¹² that 75 per cent of follow-up patients were asymptomatic appears too optimistic.

B. Symptoms.—Following recovery from the acute attack approximately two-thirds of the patients had complaints referable to the heart, such as chest pain, dyspnea, and weakness. The remaining third were symptom-free.

(1) *Angina Pectoris:* This was the most common symptom, being present in 61.5 per cent of the cases (Table 3), an incidence similar to that obtained by Palmer.¹⁶ In one-third of these patients the pain was mild and their ordinary activities were only slightly restricted, or not at all—the majority returned to work. The anginal syndrome following a coronary occlusion was often atypical, being vague in character, occurring in the left part of the chest, back, or shoulders, as well as substernally; not infrequently, it was unrelated to effort. The incidence of angina pectoris was approximately the same as it had been prior to the acute attack; this was due to the fact that an anginal syndrome often developed for the first time following the occlusion, whereas one that had been present previously not infrequently disappeared following recovery from the acute attack (Table 4). Thus, of the 83 patients who had never complained of chest pain, one-half continued to be free of pain and one-half developed angina pectoris following the attack. On the other hand, of the 119 patients who had had angina pectoris previously, 30 per cent were free of pain following recovery from the acute attack. When the pain persisted, it was generally increased in severity.

These observations, like those of other authors,^{14,16,23} emphasize that a coronary occlusion may initiate a chronic anginal syndrome or may be followed by complete cessation of previous angina pectoris. Eckerson, Roberts, and Howard²³ and Levy¹⁴ attributed the latter to the fact that following complete occlusion of a previously narrowed coronary artery the infarct is replaced by a scar that is physiologically inactive and does not contain nerve endings. This area, no longer sensitive to the effects of anoxemia, does not give rise to painful impulses. In the past it has been thought that disappearance of pain was related to the presence of a low or normal blood pressure following the attack.²⁴ Palmer,¹⁶ however, found no direct relation between the two, for in some of his patients anginal pain disappeared despite the return of hyperten-

sion. In our series, too, the blood pressure level did not appear to influence the presence or absence of pain. The incidence of hypertension both before and after the attack was practically the same in the group that lost their pain as in the group that continued to suffer from angina.

(2) *Dyspnea*: This symptom was almost as common as angina pectoris; it existed in 55 per cent of the cases (Table 5), particularly in patients with congestive heart failure. Not infrequently, it was the sole symptom of cardiac disability. Thus, 10 per cent of the patients suffered from dyspnea on exertion without precordial pain; in half of these there were no objective signs of heart failure.

(3) *Weakness*: A third common symptom was weakness, which was a significant complaint in 56 per cent of cases (Table 5). Occasionally, it was the only symptom of cardiac disability, but as a rule it was associated with angina or dyspnea.

C. Physical Signs.—(1) *Congestive Heart Failure*: Signs of chronic heart failure were present in 23 per cent of cases and were usually those of failure of the left ventricle (Table 6). They were of moderate or severe degree in only 7 per cent. Heart failure occurred in 13 per cent of the cases followed by Palmer¹⁶ and in 33 per cent of those followed by White and Bland.⁵ The incidence of heart failure is much greater during the acute attack; for example, we found it as high as 66 per cent.²² Thus, many patients with heart failure during the acute attack lose all evidence of failure following recovery. As a rule, those in whom signs of heart failure persisted had sustained a fairly severe acute attack, suggesting the occurrence of a large infarct. Practically all these patients were partially or completely disabled throughout the period of follow-up observation. In 6 per cent of the series, evidence of heart failure was present in the absence of angina pectoris.

Cyanosis occurred in 28 per cent of cases (Table 5). It was generally of mild or moderate degree. Although it was usually present in those with heart failure, it occasionally was observed in the absence of other signs of failure. A few patients presented a distinct ashen gray pallor instead of cyanosis.

(2) *Heart Sounds*: Diminution of the intensity of the heart sounds, particularly of the first sound, is a diagnostic sign during acute coronary occlusion. It was observed during the acute stage in two-thirds of our cases studied clinically²² (Table 7) and phonocardiographically.²² In the latter investigation

TABLE 5.—DYSPNEA, CYANOSIS, AND WEAKNESS (202 CASES)

	Dyspnea	Cyanosis	Weakness
None	70	160	88
Mild	81*	14	59
Moderate	21*	28†	24
Severe	10*		1

* Includes 5 cases with asthma and emphysema.

† Includes 5 cases with ashen gray pallor.

TABLE 6.—INCIDENCE OF CHRONIC HEART FAILURE (202 CASES)

	No. of Cases	Percentage
No heart failure	155	77
Heart failure	47	23
Type		
Left	28	
Right	15	
Left and right	4	
Severity		
Mild	32	
Moderate	14	
Severe	1	

TABLE 7.—CHARACTER OF HEART SOUNDS (202 CASES)

	During Attack	Follow-up
Normal heart sounds	13	38
Fair intensity and quality	59	69
Distant or poor quality	130	95
Gallop rhythm	63	17

it was found that the impairment of the first sound usually persisted throughout the patient's hospital stay. In the present study particular attention was paid to the character of the heart sounds at each follow-up examination. Almost one-half of the cases showed a persistent impairment of intensity of the heart sounds (Table 6). It is evident, therefore, that in the majority of instances, impaired heart sounds due to coronary occlusion were permanent or lasted for months or years. This emphasizes the diagnostic importance of studying the heart sounds in patients with coronary disease. Distinct impairment of the first apical sound in a subject over 40, particularly in the presence of a normal second sound, should raise the suspicion of previous coronary occlusion.

Gallop rhythm, an abnormality usually associated with a decompensated heart, was audible in 8.5 per cent of the cases as compared to an incidence of 31 per cent during the acute stages.²² This lower incidence during the follow-up period is undoubtedly associated with the lower incidence of heart failure during this period.

(3) *Heart Rate and Rhythm*: The vast majority of follow-up patients had a normal heart rate and rhythm (Table 8). Sinus bradycardia (60 beats per minute or less) occurred in 5 per cent and sinus tachycardia

TABLE 8.—HEART RATE AND RHYTHM (202 CASES)

	No. of Cases
Sinus bradycardia (60 or less)	10
Normal rate and rhythm (60-90)	160
Sinus tachycardia (90-100)	27
100 or more	4
Auricular fibrillation	
Chronic	2
Paroxysmal	3
Bigeminal rhythm (extrasystoles)	1

TABLE 9.—BLOOD PRESSURE (202 CASES)

	Before Attack	During Attack	Follow-up
Hypotension (100 or less)		80	14
Normal blood pressure (100-150)	41		112
Hypertension	122		76
Normal to slight			15
Slight (150-160)			25
Moderate (160-200)			29
Severe (200 or more)			7
Unknown	39		

TABLE 10.—SUBSEQUENT ATTACKS DURING FOLLOW-UP (202 CASES)

	No. of Cases
No subsequent attacks	141
Another coronary occlusion	44
Acute heart failure without occlusion	17
Death due to occlusion or heart failure	25
Death due to other causes	7

(90 or more) in 15 per cent. The latter generally was present in patients with heart failure. Arrhythmias were rare (3 per cent) and consisted of chronic auricular fibrillation in 2 cases, paroxysmal auricular fibrillation in 3 cases and multiple ventricular premature beats in 1 case. A low incidence (3.5 per cent) was present also in Palmer's series of follow-up cases.¹⁶ On the other hand, the incidence during the acute stage of the attack was 14 per cent, exclusive of premature beats.²⁷ The rarity of cardiac irregularities is surprising in view of the large number of patients with severe coronary disease included in this series. It emphasizes the observation made previously²⁷ that cardiac irregularities that appear in acute coronary occlusion are rarely permanent and rarely recur following healing of the infarct. Since cardiac irregularities during the acute stage were commonly found in association with heart failure, the smaller incidence of severe heart failure following recovery from the attack may partly explain their infrequency during the follow-up period.

(4) *Blood Pressure:* Hypertension (150 mm. or more systolic and 90 mm. or more diastolic) was known to have been present in 60.4 per cent of the cases prior to the observed attack of coronary occlusion (Table 9), an incidence similar to that reported by us²² previously in

a larger series of cases. Following recovery from the attack the incidence of hypertension fell to 37.6 per cent; that is, following the attack the blood pressure failed to return to a hypertensive level in over one-third of hypertensive patients. Even when the blood pressure did rise to a hypertensive level, it often did not attain previous levels, for in the majority of cases the hypertension was slight or moderate. Readings above 200 mm. were less common than prior to the attack, as was noted by Allen.¹¹

In those cases in which the systolic blood pressure dropped to low levels during the acute attack it generally rose to 100 mm. or more within a few months following recovery. However, in 14 cases hypotension (less than 100 mm.) persisted for more than one year. The degree of clinical recovery in these cases did not seem to be less favorable than in those with higher blood pressure levels.

Allen¹¹ stated that the quicker the return of the blood pressure to normal or previous levels the better the prognosis and that the prognosis should be guarded in hypertensive patients whose blood pressure did not rise above a normal level following recovery. Similarly, Palmer^{16,23} found that when hypertension returned following the attack the patient fared somewhat better than nonhypertensives as to duration of life and recurrence of attacks. Gross and Engelberg²⁴ concluded that the subsequent blood pressure following coronary occlusion had no effect on longevity or on the occurrence and severity of heart failure. However, in our series hypertension seemed to have an adverse influence on clinical recovery. Although it did not increase the frequency and severity of angina pectoris, its incidence was distinctly greater in patients who subsequently developed heart failure (55 per cent) than in those without failure (32 per cent), doubtless due to the higher incidence of cardiac enlargement. While just as many extremely sick patients had a normal blood pressure as had hypertension, it is significant that hypertension was twice as common in patients who made a poor clinical recovery (46.4 per cent) as in those who made a good recovery (23.8 per cent). Conversely, only 20 per cent of the patients in whom hypertension returned following the attack made a good recovery, whereas 37.5 per cent of the nonhypertensive patients did so. However, hypertension did not influence the frequency of subsequent attacks of coronary occlusion, the latter occurring as frequently in nonhypertensive as hypertensive patients. This cor-

robates the observation of Palmer¹⁶ that a low or normal blood pressure does not protect against another attack of occlusion.

D. Subsequent Attacks.—A subsequent attack of acute coronary occlusion one year or more after recovery occurred in 44 of our patients (22 per cent), and acute heart failure not precipitated by another occlusion in 17 other patients (8.5 per cent) (Table 10). In 10 of the former and 2 of the latter, recovery from the first observed attack had been practically complete prior to the subsequent attack; nevertheless, another coronary occlusion or acute heart failure occurred. Generally, however, patients who sustain further attacks have recovered poorly or only partially from their preceding attack. Death occurred in 25 of the 61 patients who sustained another attack of occlusion or heart failure. Seven other patients died of extracardiac causes, such as a cerebrovascular accident. It should be remembered that only patients who survived at least one year after the acute attack have been included in this series. Patients who died prior to, or who were followed for less than, one year have not been included.

E. Return to Work.—It is now well established that a large number of patients who have recovered from coronary occlusion are able to return to work. Although Parkinson and Bedford⁷ in 1928 reported that 8 out of 66 patients recovered completely and went back to their ordinary work, no other exact statistics were available until the reports of Cooksey¹² and Master¹³ appeared in 1935. Three-fourths of the former's small series of 32 private patients and of Master's series of 71 private cases were able to resume their previous occupation or routine of life. The incidence of return to work is considerably lower, however, when hospital ward patients are considered, since they are usually sicker patients and their type of work is usually more arduous. Thus, only 29 per cent of Palmer's series¹⁶ of follow-up cases were able to resume unrestricted activity. More recently, we²⁰ reported on a much larger series, consisting of 185 private and 230 hospital follow-up patients. Fifty-seven per cent of the former and 50 per cent of the latter returned to full- or part-time work, the great majority within six months after recovery from the attack. The number returning to full-time work was distinctly greater in the private patients than in the hospital ward patients and in the younger age groups than in the older individuals. In Segall's²¹ series of 197 follow-up patients two-thirds resumed some form of

TABLE 11.—RETURN TO WORK (202 Cases)

	No. of Cases	Total	Percentage
Working		105	52
Full time	49		
Part time or light work	56		
Not working		97	48
Unable to work	88		
Retired	5		
Extracardiac factors	4		

work. He, too, emphasized the greater ability of the younger patients to return to work.

In the present series 52 per cent of the patients returned to work (Table 11), 24 per cent to full-time and 28 per cent to part-time or light work. Of the 97 patients who did not work, 88 were prevented by angina pectoris, dyspnea, or weakness and 4 by extracardiac complications, while 5 patients retired from work despite the absence of cardiac symptoms. The presence of mild angina pectoris or dyspnea, however, did not prevent return to work, since these occurred in almost one-half the working patients, particularly in laborers, manual workers, and housewives. Almost two-thirds of the patients under 50 years of age returned to work, the majority to full-time, while less than one-half of those over 60 returned to work, the majority to part-time or light work. As one would expect, the incidence also decreased with each succeeding attack of occlusion. Although as many laborers and manual workers returned to work as white collar and professional persons, a larger percentage of the latter were able to work full time. Almost one-half of those who resumed work did so within three months after discharge from the hospital; two-thirds, within six months.

These observations emphasize not only that clinical recovery following acute coronary occlusion may be fairly complete in one-third of the patients who recover from the attack but also that these patients may resume their former occupations or activities. A large percentage of patients who made only a fair clinical recovery also resumes full-time or part-time work, depending upon the degree of angina pectoris or dyspnea on effort. However, the latter may be no more severe than was suffered by these patients prior to the attack, despite the resumption of normal activity. The outlook for leading a fairly comfortable and active life following recovery from acute coronary occlusion is good.

Summary

1. A detailed follow-up study of the cardiac status, as determined by symptoms

and physical examination, has been made in a group of 202 patients who had recovered from an acute coronary occlusion one to six years previously.

2. Clinical recovery from the attack was good in one-third, poor in two-fifths, and fair in the remainder of the series. Two-fifths showed no or only slight restriction of physical activity.

3. Two-thirds of the patients complained of precordial pain, dyspnea, or fatigue and one-third had no symptoms of cardiac disability.

4. Angina pectoris occurred in three-fifths of the patients. Coronary occlusion may initiate an anginal syndrome or aggravate one previously present. On the other hand, pre-existing angina pectoris may disappear completely following the attack. The presence or absence of angina pectoris was not influenced by the level of the blood pressure.

5. Dyspnea, present in over half the patients, was occasionally the only symptoms of heart failure or cardiac disability.

6. Weakness was common but only rarely occurred in the absence of pain or dyspnea.

7. Chronic congestive heart failure was present in one-fourth the patients, a much lower incidence than during the attack and of a milder degree.

8. Persistent diminished amplitude of the heart sounds, particularly the first apical sound, was observed in about one-half the patients. This sign may be of diagnostic value in subjects over 40 suspected of coronary disease. Gallop rhythm, a sign of a failing heart, was not uncommon.

9. The heart rate and rhythm were normal in the great majority of patients. Paroxysmal or permanent auricular fibrillation occurred in only 5 patients. The rarity of arrhythmias in this series is in marked contrast to their frequency in the acute stage of coronary occlusion.

10. Hypertension, which had been present in two-thirds of the patients prior to the acute attack, returned or persisted in only one-third of the group following recovery. Although hypertension did not influence the frequency or severity of angina pectoris or the frequency of subsequent attacks, it was more common in those who developed heart failure and in those whose clinical recovery was poor.

11. One-half the patients resumed their former occupations, either full or part time. Inability to work was nearly always attributable to an anginal syndrome or heart failure. Mild angina pectoris or dyspnea, however, did not prevent return to work. The great

majority of patients who resumed work did so within six months after discharge from the hospital.

12. It is concluded that at least one-third of hospital ward patients who recover from acute coronary occlusion may lead a fairly active life with no, or only slight, restriction of ordinary activities.

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Discussion

Dr. Louis H. Bauer, *Hempstead, New York* [This discussion also includes Dr. Willius' paper on page 409]—One rises to discuss papers by such authorities as Dr. Willius and Dr. Master with mixed emotions. He feels honored at being asked to discuss them but embarrassed that the completeness of presentation leaves little to discuss. There is left only the opportunity of reiterating some of the important points already brought out.

Dr. Master has given us a summary of various tests and their relationship to cardiac function after myocardial infarction. We have long needed some test of heart function which would be a reliable guide for increasing the activity of the patient. Dr. Master's paper ties in perfectly with that of Dr. Willius, who pleads for individualistic management, and these tests will help

us do just that. I was much interested in his two-step exercise test and am wondering if the Schneider index might not be used as a further test in the later stages of convalescence. When the test was first developed, Schneider felt that it was not a cardiac test in any way, but at that time we did not know so much about coronary disease as we do now and it is possible that this test also could be added to those proposed by Dr. Master.

I believe that too much stress cannot be laid on Dr. Willius' plea for individual treatment for the coronary patient. You hear much nowadays about the dangers of "mass treatment," and certainly in coronary disease we have a condition that—except for certain basic factors—should not be treated routinely. That this is true is brought out by Dr. Willius in his references to the pathologic background of these cases. One routine measure emphasized by Dr. Willius I do believe in, and that is a minimum of six weeks in bed regardless of the absence of symptoms following the development of infarction. Beyond that, routine management is to be avoided. Each patient should be guided along the path of convalescence in accordance with his reaction to increased activity. Gradual but steady increase of activity to the point of toleration should be encouraged. How far he can go depends on his individual response. The tests suggested by Dr. Master will help us assess this factor.

Many cases need no medication after the original morphine and oxygen. Sedatives are often advisable in the apprehensive or restless patient. I agree with Dr. Willius about quinidine. It is certainly most useful in certain cases, but I do not feel that there is any justification for giving quinidine routinely in every case the moment a diagnosis of infarction is made. I agree also that the use of the xanthines is a moot question. In fact, I would go even further than Dr. Willius and say that by mouth they are of no value whatsoever. Xanthines combined with sedative are more useful but I think there is no doubt that the sedative is the important factor. There is perhaps one exception and that is aminophyllin intravenously which is useful in a certain number of cases. I thoroughly agree as to his remarks on digitalis. Only rarely, if ever, is it necessary to use it. Minor symptoms of failure such as basal rales will appear in most cases, and they are not an indication for digitalis therapy. Bed rest alone will clear up a majority of the cases. In more marked congestive failure I believe diuretics, such as mercuripurin or salyrgan-theophylline, are safer and fully as satisfactory as digitalis. The myocardium in an infarction has already suffered a grave insult and it needs rest. Digitalis acts directly on the heart muscle and is contraindicated. A mercurial diuretic relieves the congestive signs without cardiac stimulation and is, therefore, to be preferred. In the later stages of myocardial in-

farction after healing is well advanced, there is less objection to digitalis, and many cases that have not shown signs of failure at the start may develop these signs as the patient becomes more active; then, digitalis may be used. In those cases of left ventricular failure near the onset of infarction, posture, bed rest, morphine, and oxygen are the ideal treatment. In these cases, too, mercurial diuretics may be used with benefit. While there may be cases in which the signs of failure are so marked that digitalis should be used early, they certainly are few and far between, and in my opinion it should never be used until other therapeutic measures have proved insufficient. I agree with Dr. Willius that digitalis is a most valuable drug, probably the most valuable drug in cardiac therapy and, were we limited to one drug, we would probably choose this. However, I believe also that it is the most abused drug in the pharmacopoeia. It is used when it should not be; it is not used when it should be and, when used, is often given in inadequate dosage.

It has been an honor and privilege to discuss these two papers by such well-known authorities, and I wish to express my appreciation for the opportunity of doing so.

Dr. R. M. Collie, *Schenectady, New York*—Just eighteen years ago, I recall hearing MacKenzie at St. Andrews Institute speak with skepticism of the value of any functional tests of the heart. The patient's general physical fitness, the amount of nervous fatigue, the incidence of pulmonary lesions, the patient's muscular development, and many other factors tend to disrupt the resultant findings as a reliable test of cardiac efficiency. However, I am sure that even MacKenzie, with all his supposed dogma, would be listening intently, were he here, to Dr. Master's findings.

My interest in these studies is more from a clinical standpoint and, unfortunately, not from that of the cardiologic laboratory. It is, necessarily, from an impressionistic attitude, rather than from the realistic, that I am able to speak.

In employing objective functional tests on these damaged hearts, we have tried to keep in mind the fact that angina pectoris, coronary occlusion, and myocardial infarction are probably different degrees of myocardial ischemia. They are different stages of nutritional deficiency of the heart. The relief from this deficiency is pretty much dependent upon the establishment of a coronary collateral circulation.

We have followed up a number of cases of coronary occlusion with objective procedures. This was done rather to determine the patient's cardiac fitness than to determine the comparative value of cardiac functional tests.

In reviewing some of the cases of a few years back, we were often surprised by the failure of follow-up electrocardiograms to show changes in cases of diagnosed myocardial infarction.

Now we know that they were probably cases of coronary failure without infarction.

As to the manner of production of these coronary injuries, a striking report was obtained from the medical department of the General Electric Company, from which come many of our cases. Here, in a plant which employs 25,000 workers daily, we find that during the past twenty years only 2 cases of myocardial infarction were reported which occurred while the worker was actively exerting. The many cases of coronary occlusion that I have seen which happened in this company have occurred outside the plant, while the patient was at rest—in other words, while coronary stasis was present.

In our follow-up work we believe that we have noted types or groups who take coronary insults quite differently.

First: the educated office man of, perhaps, 50—not physically fit, mentally fatigued, worried. Coronary narrowing was noted by frequent mild attacks of angina pectoris for a period

of years previous to the occlusion. In this group the morbidity was higher. By electrocardiogram and other tests on those who recovered, we found that the tests indicated but very slow improvement. Nevertheless, in these cases, the opportunity for the establishment of a collateral circulation was present.

Second: the mechanic who was physically fit—used his muscles every day. Usually, no previous attacks of angina or coronary failure were noted. His first coronary attack was crushing. If he recovered, his follow-up tests were better than the test obtained on the first group, and he commonly returned to work. All this resolves itself, seemingly, into the conclusion that the physically fit prevail. I know that they do not always prevail. Nevertheless, I have wondered if this second type, by the very nature of his physical exertion, did not develop a better coronary tree and was, therefore, able to establish more quickly an efficient collateral circulation at the time of urgent need.

HIGHWAYS TO HEALTH—"KEEP THE HOME FIRES BURNING" . . .

. . . is the title of an excellent series of radio talks on morale that is being given over the Columbia Broadcasting System from 4:15 to 4:30 P.M. on Thursdays. The New York Academy of Medicine, through its Committee on Medical Information, is sponsoring the series and the members of the subcommittee arranging the talks are Drs. S. Bernard Wortis, Fred P. Solley, Charles Diller Ryan, and Iago Galdston, secretary.

At a preliminary meeting it was agreed that:

a. The subject of Morale shall be treated from the constructive, positive, rather than from the negative aspect—to wit, little emphasis will be placed upon fears, anxieties, and the destructive aspects of war, while much attention will be devoted to those things which people can do in the motor sense to sustain emotional equilibrium and a competence to meet emergency situations.

b. There shall be advanced the basic thesis that war time does not so much create new emotional problems as it serves to intensify those that are common to civil life.

c. Noteworthy in the substance of the Morale talks will be such matters as will serve to counter-effect what has been aptly termed "The Four Horsemen of Morale Destruction"—to wit, Threats, Rumors, Fatigue, and Malnutrition.

d. The following specific concepts were recommended for inclusion in the talks:

1. Mental casualties result not so much from the threat of bodily harm as from disruption of the normal living processes.

2. The best antidote to panic is to engage the energies of people in communal and gregarious activities.

3. Those who express their anxieties in motor reactions can find release in activities of a social character.

4. Children tend to reflect the anxieties of their parents. The awareness of this by the parents will help them better to protect their children.

5. To children under 6 years of age, the home is the center of their emotional life, while to children under 11, school is the emotional pivot.

6. Food and warmth are all important in sustaining morale.

Following the first broadcast the announcer will summarize briefly the high points of the previous week's talk. At the conclusion of the talk, the theme song will be played and the announcer will give the name of the speaker and the title of the talk to be delivered the next week.

The program is as follows:

February 19	Dr. John L. Rice	Morale and Health
February 26	Dr. Thomas T. Mackie	Morale and the Diet
March 5	Dr. Foster Kennedy	Morale and the Adult
March 12	Mr. Lawrence K. Frank	Morale and the Family
March 19	Dr. William S. Langford	Morale and the Child
March 26	Dr. S. Bernard Wortis	A summary of the preceding five broadcasts

If the Columbia Broadcasting System can arrange to have these talks published in a small pamphlet, it will be distributed to those requesting copies, and an announcement to this effect will be made at each broadcast.

INTESTINAL OBSTRUCTION FROM THE PRACTITIONER'S POINT OF VIEW

W. OSLER ABBOTT, M.D., Philadelphia

FROM the standpoint of the practitioner of medicine, intestinal obstruction has always been a bugbear. He sees a patient with colicky abdominal pain. He has been taught that if it is intestinal obstruction the chance of recovery will grow less with every hour that passes before surgery is resorted to, but he also knows that if he calls for operation too early he will inevitably operate on many patients who have colic from other causes. The patient, too, believes that admission to a hospital for a blocked bowel will mean a laparotomy and urges his doctor to delay. In this dilemma how shall he proceed? The solution lies in a change in the point of view that has been slowly crystallizing in the last decade.

It has long been taught that obstruction may be accompanied by strangulation, in which event the hazard is increased, but, since the treatment always was immediate operation, the making of this diagnosis became, from the practitioner's standpoint, a rather academic procedure.

The developments of the last few years, however, have changed this, too. A patient with strangulation will succumb to infection spreading from the dead tissue, and it is simple cause and effect that unless the necrotic area is excised before it perforates a fatality will result. But what causes the fatality in the nonstrangulated case? Investigations aimed at the finding of a hypothetical "toxic substance" appearing in the obstructed patient have come to naught, but studies of the loss of essential substances from the patient have been most illuminating. Beginning with the early work of Hartwell and Hoguet¹ and their observations on salt and fluid and carrying on through the work of Haden and Orr,² Ochsner,³ Ravdin, Stengel, and Prushankin,⁴ and a host of others, it has become increasingly apparent that the high mortality rate is related to the depletion of nutritional essentials: fluids, electrolytes, proteins, calories, and vitamins. At the same time the

work of Wangenstein,⁵ Fine, Banks, Sears, and Hermanson,⁶ and others has shown that the mechanism of this change is simple distention, and we have been able to demonstrate that when distention is controlled and nutrition maintained the patient may continue in good condition almost indefinitely in spite of a complete obstruction of the gut. In a word, as has been frequently stated, death follows when strangulation goes unrelieved or when distention goes unreduced, but one must go further and say that the method of reducing the distention is of the utmost importance. When the old dictum of Sir Arbuthnot Lane that the sun should never be allowed to rise or to set on a case of intestinal obstruction was adhered to, the mortality for nonstrangulated cases was about 30 per cent or more. When nonsurgical methods of decompression are used, the mortality is about 10 per cent or less.⁸ Thus, one may say that in the face of the rapidly developing nutritional disorders of the obstructed patient it is as fatal to operate when one should wait as to wait when one should operate. The prompt diagnosis of strangulation is, therefore, no longer an academic problem but one of the most urgent importance.

What difference then, does all this make in the doctor's approach to his patient? In the first place, he may give his patient valid assurance that the diagnosis of intestinal obstruction will not necessarily condemn him to emergency surgery. Many patients with complete obstruction are returning from hospitals to a normal life without having been operated on. This point alone makes it far easier for the practitioner to obtain the patient's cooperation in going to a hospital while the obstruction is still recent or while the diagnosis is in doubt.

Having obtained the patient's consent to hospitalization, the next question is whether strangulation exists. The criteria have long been laid down in every standard textbook. It is the importance of the diagnosis rather than the manner of arriving at it which has changed. I shall stress three points, however, which are of great usefulness. First, with regard to the character of the pain, a patient with simple obstruction is doubled up by intense pain coinciding with waves of colic which

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From the Gastro-Intestinal Section (Kinsey-Thomas Foundation) of the Medical Clinic, Hospital of the University of Pennsylvania. Aided by a grant from the Smith, Kline and French Laboratories.

are often audible without a stethoscope and not infrequently palpable or visible through the abdominal wall. With the passage of the wave he brightens up again and evinces little evidence of distress until the next colic grips him. The patient with strangulation, however, will have the same severe waves of pain, but between these waves he is not completely relieved by any means. This persistence of severe ischemic pain is characteristic. In the second place, strangulation is associated with far more superficial tenderness and there is a far greater tendency for the tenderness to be localized to some particular area of the abdominal wall than is the case in obstruction without strangulation. Finally, the waves of peristalsis which cause the pain in the absence of impaired blood supply can generally be inhibited by $\frac{1}{6}$ grain of morphine sulfate given subcutaneously, and with the cessation of contractions there is an end of colic, at least for the time being. The strangulated patient, on the other hand—as has long been taught by Dr. E. L. Eliason—is rarely given complete relief by a single dose of this magnitude.

If one decides that strangulation is present, surgery without further delay is still, and probably always will be, the proper course of action. From this point onward, therefore, I shall concern myself with those cases in which strangulation is felt to be absent and, since the aim of nonoperative treatment is the correction of the disturbance brought about by the obstruction, as well as of the obstruction itself, we must consider what these disturbances are.

The alternative to immediate operative intervention is decompression by intestinal intubation and the correction of nutritional defects by intravenous alimentation. The technic of passing a tube down the small intestine even to the colon has been described elsewhere. Suffice it to say that a special double-barreled tube having a thin rubber balloon at its tip must be used. The tube advances until it reaches the obstruction and remains there. Constant suction draws off intestinal content and the residue of the food. The doctor waits for one of two developments that depend largely on the nature of the lesion. The patient's metabolic state is brought into balance and then, when well prepared, he is either operated upon or else allowed to wait until the obstruction subsides. The frequency with which the latter result occurs is striking. The mechanism of the relief is related to the nature of obstructions in gen-

eral. They are frequently the result of three changes in the gut wall: first, an anatomic narrowing due to angulation, tumor growth, or fibrosis; second, a local inflammatory reaction; and, third, nutritional edema. The anatomic change is unaltered by conservative treatment, the local inflammation is relieved by sustained decompression of the proximal segment, and the hypoproteinemic edema is decreased by improved nutrition. The result will often be a disappearance of all evidence of obstruction.

The technic of correcting the deficiency must be considered under two heads: one, the handling of the acute condition when the patient is first admitted; later, his maintenance while waiting for subsidence of the obstructing process. Emphasis has long been laid on the use of intravenous saline. This is essential at the outset, and 3 to 5 L. are not infrequently needed in the first twenty-four hours. The advisability of adding 5 per cent glucose to this is well known. One must remember, however, that it is not the electrolyte content of the blood but its protein content that holds fluid in the vessels. Therefore, to prevent the saline from accumulating as edema fluid and thereby making a partial obstruction complete, the first material to be injected should be blood or plasma with the saline following it. After the first twenty-four hours the salt intake should be carefully considered. Since each liter of saline contains 9 Gm., 3 L. by vein becomes a salt intake far in excess of that which one could long tolerate by mouth, and the use of 5 per cent glucose in distilled water to make up part of the total fluid intake becomes helpful. With these solutions should also be given the less well-stored vitamins—viz., thiamin chloride, 10 to 20 mg. per day; ascorbic acid, 100 to 200 mg. per day; and nicotinic acid, 100 mg. per day. Such a regimen adjusted to the patient's individual needs will tide him over the acute stages of his disorder.

If it is an inflammatory obstruction such as may follow a late operation for rupture of the appendix or the repair of some traumatic perforation of the bowel, one will wish to maintain conservative treatment for days or weeks. The maintenance of the obstructed patient is therefore the next consideration. In all but the cases of high obstruction the feeding of a low residue diet is practical. Many obstructed patients live well on 1,200 to 1,500 calories per day in three to five feedings of lean beef and lamb, soup, eggs, cheese, rice, zwieback, melba toast, jellies, custards,

junkets, tea, coffee, sugar, butter, and cream to which is added, as the patient tolerates them, farina and puréed vegetables. The salt loss from the intestine is approximately 10 grains for every 100 cc. of drainage fluid and can be replaced by mouth on this basis.

This constitutes the basic procedure but, as the particular problems vary with the location of the lesion from the pylorus to the rectum, some special comment must be made. A high obstruction of the pylorus or duodenal cap infrequently presents diagnostic difficulties, for strangulation so rarely occurs there.

The nutritional aspect of these cases is characterized by the frequency of alkalosis from the loss of gastric juice. This is indicated clinically by the appearance of tetany and is forecast in the blood by a rising CO_2 level.

It was long taught that pyloric obstruction in the adult warranted immediate operation. Rasky³ has shown, however, the frequency with which one may bring about subsidence of the obstruction through conservative measures. Even where this does not result, the well-prepared patient is a far better surgical risk than the individual operated on when near a state of shock from incessant vomiting. Four or five days of gastric aspiration will, as a rule, enable one either to avoid operation or at least to feed a patient carefully until acute malnutrition is corrected and he is in condition to withstand gastric surgery.

In the small intestine the diagnosis of strangulation is less easy, but reference to the figures of McIver¹⁰ indicate the frequency with which strangulations in this region are palpable. The great majority result from hernias in the inguinal, femoral, or umbilical orifices or from hernias into old wounds. The residue includes a small handful of intussusceptions, an occasional volvulus or an intestinal herniation resulting from a congenital peritoneal fold or an artificial orifice resulting from a former operation or infection. Classification of obstructions without strangulation in this region includes not only the mechanical obstructions but also the so-called paralytic ileus, often resulting from lesions having no local connection with the digestive tract such as spinal injuries, and the self-limited inflammatory obstruction, resulting from local peritonitis. Here, however, refinements of diagnosis are, from the standpoint of procedure, still somewhat academic in that nonsurgical decompression remains the procedure of choice in all.

In each of these conditions the passage of a small intestinal tube either to the point of obstruction or, in the case of adynamic ileus, until clinical relief is obtained is the correct procedure. In jejunal obstructions aspiration draws off bile and pancreatic juices with their important ferment. The electrolyte content of the drainage, however, is chiefly made up of sodium chloride rather than hydrochloric acid; hence, alkalosis is less likely to complicate the problem than when the lesion is at the pylorus. Because of the large amounts of fluid that may at times collect unvomited in the distended gut, dehydration may be far greater than the volume of vomitus recovered suggests. If the obstruction is on an inflammatory basis and one wishes to decompress the gut for a week or ten days while waiting for the local inflammation to subside, the patient's ability to eat and drink while the tube recovers the residue is often of crucial value.

Obstructions of the colon are less apt to present a difficult diagnostic problem between strangulation and nonstrangulation than is the case in the small gut. The symptoms of volvulus are sufficiently urgent to leave little doubt in the matter. Slowly developing obstructions due to carcinoma, however, are relatively common, and the influence of nonsurgical decompression upon the handling of these cases requires a special word. The slow onset of symptoms invites an attempt at intubation, but from the technical standpoint it is far more difficult successfully to decompress the distended colon of a rectosigmoid obstruction than to cope with a blockage of the small gut lumen. Nevertheless, it is not infrequently possible to place the tip of a long intestinal tube in the cecum and by frequent irrigation to empty the colon proximal to the lesion.

Summary

Intestinal obstruction from the standpoint of the general practitioner is no longer a diagnosis that need carry with it the implication of an emergency operation. Means are available today for correcting and maintaining nutrition without utilizing the digestive tract; means are likewise available for emptying the gut proximal to an obstruction without incising it. As these changes have made the treatment of obstruction less routine they have made the prompt diagnosis of strangulation more urgent, for we are now coming to realize that it is almost as grave an error to perform an emergency operation on

an unprepared patient in the absence of strangulation as to delay surgery when the blood supply of the gut is in jeopardy. The surgery of nonstrangulated obstruction today, when it is necessary at all, should always be a procedure of election.

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Discussion

Dr. Leon J. Leahy, *Buffalo, New York*—I feel that the method Dr. Abbott has just described is a great contribution to medical progress. It has been very well received throughout the surgical world, and the successful results following its use are indisputable evidence that it occupies an important place in the treatment of intestinal obstruction. This is especially true when one realizes that the mortality rate for intestinal obstruction in the not too far distant past was accepted to be in the vicinity of 30 per cent and that today, for example, reports of rather large groups of cases are made with the reduction of this figure to 5.9 per cent at the Presbyterian Hospital in New York and 9.5 per cent by Johnson and Penberthy in Detroit. In each of these series the Miller-Abbott tube was used with or without surgery.

In certain instances within the last ten years there has been a trend in surgery toward conservatism in the treatment of some conditions that were hitherto considered to be emergencies; for example, delay is advocated by certain excellent men in cases of early perforated appendicitis before localization has started. We are told that acute osteomyelitis, which was one of the real surgical emergencies, now is often treated expectantly until the soft tissues are invaded by abscess. A series of acutely perforated ulcers has been reported from Toronto, with a surprisingly low mortality rate, where

operation was delayed for varying periods of time until the patient was prepared for surgery. Today, a conservative treatment that can be used in many cases of intestinal obstruction has been brought to our attention. I state these facts because, in my opinion, this delayed treatment that I have mentioned requires the keenest type of surgical judgment based on experience, so that only the proper cases will be selected. I feel that it is something that must be learned and cannot be taught and, if possible, the errors should be made on the side of safety and the patient subjected to surgery when there is a doubt.

My experience with the Miller-Abbott tube has been limited, and perhaps for this reason we have encountered some delay in having the tube pass into the intestinal tract. This difficulty has possibly been one of the factors which has tended to discourage us from a more liberal use of this procedure. There are other factors, however, which have influenced this. We feel that it is hazardous to attempt to differentiate between the simple mechanical obstruction and the strangulated obstruction in early cases. I realize that the character of the pain, lack of tenderness, temperature, and leukocyte count all offer valuable help, but any of these is far from infallible. We also feel that strangulation may be superimposed upon a mechanical obstruction after the onset.

In 136 cases studied by McKittrick at the Massachusetts General Hospital it was shown that the duration of obstruction was the most important factor influencing the mortality rate, and he mentions 42 cases that were operated within twenty-four hours from the onset with no deaths. During the second twenty-four hours the mortality rate was approximately the same with or without delay; after forty-eight hours 33 per cent died when operation was done immediately, and 26 per cent died when there was a delay of six hours or more.

It is our custom to operate on the early cases immediately—by this I mean after hydration has been instituted and the chemical balance restored if these measures seem indicated. We also decompress the stomach and upper intestine by the Wangenstein method and leave the tube in place. In the later cases we feel that the use of the Miller-Abbott tube is indicated in selected cases and, in some instances when a marked improvement is noted and gas is passed by rectum, we continue this treatment. Occasionally, an operation is not necessary. We feel that a laparotomy is often indicated, regardless of marked improvement, because of the high incidence of recurrence.

FUNCTIONAL NERVOUS DISORDERS ASSOCIATED WITH WARFARE*

FOSTER KENNEDY, M.D., F.R.S.E., New York City

DURING the last war the term "shell shock" was employed in medical literature and, colloquially, also in the British Army to cover all cases of nervous instability occurring in warfare.

Under this heading were massed cases of amnesia, anergic stupor, sleeplessness, nightmare, mutism, functional blindness, tremors, palsies and, further, anxiety neuroses occurring not only under fighting strain but also in individuals still waiting for transport overseas. Further, the term became commonly used in newspaper journalism, whence it passed into common speech, always associated with a train of thought in the mind of the speaker, at once fearful and mysterious.

The general acceptance of this term and the apparent recognition of both medical officers and the public of a concrete, and above all quite novel, condition induced by experiences of unimaginable horror—the moving accidents of flood and field—had the obvious result of satisfying many a patient as to the propriety of his ailment; there was inevitably induced in him an easy rationalization of his illness, an easy self-justification in the very label tied to his tunic in the field ambulance, which, in all but the most redoubtable spirits, facilitated acceptance of his fate and to some extent inhibited effort on his own part toward his own cure.

Let me not be misunderstood: A conscious assumption of symptoms by soldiers in my experience—and in this I am completely supported by all other medical officers—was exceedingly rare; it was not rare for a man to go sick for a few hours to obtain a temporary alleviation of his lot, but seldom did one meet a man malingering with a view to discharge from the service.

Almost never were generalized psychoneuroses seen in soldiers suffering also from physical wounds.

It is not conceivable that of two men exposed in equal proximity to a heavy shell burst he who has no injury can have sustained a greater concussion than he who, for example, has also suffered a transverse lesion of the spinal cord; yet I never saw any sign of nerv-

ous instability—not to mention stupor, amnesia, functional abolition of the special senses or tic—in any individual who was dangerously wounded.

In his Chadwick lecture, Mott, speaking of the importance of the personal factor in determining the production of a neurosis, contrasted the case of a commercial traveler of nervous makeup who, after three days in the trenches, was returned to the base with tachycardia and tremor; who, six months later, had developed an almost complete functional paraplegia, with the calm and well-poised attitude, of another, an Australian soldier, suffering a spinal paraplegia, the result of a cord lesion inflicted by the explosion of an 8-inch shell 2 feet behind his dugout. Should we accept this comparison thoughtlessly we should miss what I believe to be one of the most important considerations in all this momentous matter. The comparison is false in that it compares two essentially unlike situations and leads us to the superficial and quite trite conclusion that a flabby, nervous fellow stands strain badly while a robust individual stands strain well.

Such a conclusion is, of course, true as far as it goes; but my experience makes me believe that had the little commercial traveler been shot in the spine his emotional apparatus would have remained under control and that had the Australian not been wounded in his narrow escape from destruction he might very well have come down the line with a mutism, generalized tremor, or some such expression of nervous breakdown.

Morale

The emotions of fear and pain constitute together our machinery of self-preservation; in most of us swathed in the cotton bandages of our civilized lives but little call is made on them. Constant exposure to imminent destruction in war produces, however, a tautness of the nervous system, a strain due to powerful excitement and, I would submit, to the organic stress induced by the mobilization of biologic instincts heretofore dormant. These instincts of self-preservation do not always, and perhaps not often, become conscious realizations. I mean that men, though in great danger, quite honestly may not feel

* Much of this paper was written in 1917 as "The Nature of Nervousness in Soldiers" and read in absentia before the American Neurological Association in 1918.

an unprepared patient in the absence of strangulation as to delay surgery when the blood supply of the gut is in jeopardy. The surgery of nonstrangulated obstruction today, when it is necessary at all, should always be a procedure of election.

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Discussion

Dr. Leon J. Leahy, *Buffalo, New York*—I feel that the method Dr. Abbott has just described is a great contribution to medical progress. It has been very well received throughout the surgical world, and the successful results following its use are indisputable evidence that it occupies an important place in the treatment of intestinal obstruction. This is especially true when one realizes that the mortality rate for intestinal obstruction in the not too far distant past was accepted to be in the vicinity of 30 per cent and that today, for example, reports of rather large groups of cases are made with the reduction of this figure to 5.9 per cent at the Presbyterian Hospital in New York and 9.5 per cent by Johnson and Penberthy in Detroit. In each of these series the Miller-Abbott tube was used with or without surgery.

In certain instances within the last ten years there has been a trend in surgery toward conservatism in the treatment of some conditions that were hitherto considered to be emergencies; for example, delay is advocated by certain excellent men in cases of early perforated appendicitis before localization has started. We are told that acute osteomyelitis, which was one of the real surgical emergencies, now is often treated expectantly until the soft tissues are invaded by abscess. A series of acutely perforated ulcers has been reported from Toronto, with a surprisingly low mortality rate, where

operation was delayed for varying periods of time until the patient was prepared for surgery. Today, a conservative treatment that can be used in many cases of intestinal obstruction has been brought to our attention. I state these facts because, in my opinion, this delayed treatment that I have mentioned requires the keenest type of surgical judgment based on experience, so that only the proper cases will be selected. I feel that it is something that must be learned and cannot be taught and, if possible, the errors should be made on the side of safety and the patient subjected to surgery when there is a doubt.

My experience with the Miller-Abbott tube has been limited, and perhaps for this reason we have encountered some delay in having the tube pass into the intestinal tract. This difficulty has possibly been one of the factors which has tended to discourage us from a more liberal use of this procedure. There are other factors, however, which have influenced this. We feel that it is hazardous to attempt to differentiate between the simple mechanical obstruction and the strangulated obstruction in early cases. I realize that the character of the pain, lack of tenderness, temperature, and leukocyte count all offer valuable help, but any of these is far from infallible. We also feel that strangulation may be superimposed upon a mechanical obstruction after the onset.

In 136 cases studied by McKittrick at the Massachusetts General Hospital it was shown that the duration of obstruction was the most important factor influencing the mortality rate, and he mentions 42 cases that were operated within twenty-four hours from the onset with no deaths. During the second twenty-four hours the mortality rate was approximately the same with or without delay; after forty-eight hours 33 per cent died when operation was done immediately, and 26 per cent died when there was a delay of six hours or more.

It is our custom to operate on the early cases immediately—by this I mean after hydration has been instituted and the chemical balance restored if these measures seem indicated. We also decompress the stomach and upper intestine by the Wangenstein method and leave the tube in place. In the later cases we feel that the use of the Miller-Abbott tube is indicated in selected cases and, in some instances when a marked improvement is noted and gas is passed by rectum, we continue this treatment. Occasionally, an operation is not necessary. We feel that a laparotomy is often indicated, regardless of marked improvement, because of the high incidence of recurrence.

weeks this experience recurred to his consciousness both by night in dreams and by day in dreaded interruptions to his normal train of thought, rendering him for that period incapable of duty, a prey to the paralyzing influences of both repulsion and fear.

In the beginning of this paper I said that I had not seen generalized psychoneuroses co-exist with somatic injury. Such, you may say, was not the opinion of all observers; but one must point out that such observers spoke of patients seen after transfer to England who on and near the field exhibited no evidences of nervous unrest. In other words, the neurotic symptoms in such cases developed after the elapse of an interval of days or weeks from the date of injury, which proves conclusively the psychogenic character of these symptoms and also, I fear, the uncomfortable fact that unwise suggestion from medical officers can do much to evolve and perpetuate somatic symptoms of psychic origin.

Further, the subject is confused by inadequate classification. I have used the term "generalized psychoneurosis" to include those patients whose inability "to carry on" was the result of their mental and emotional conflicts having been decided against their higher selves; whose morale had given way before the aggrandizement of their emotions of self-preservation; these were the tremblers, the amnesic, the disoriented, those with night and day dream deliriums, and the stuporous. The anxiety neuroses—a milder type of the same category—were most often developed in officers and resulted from prolonged strain and mental conflict rather than from a single external catastrophe.

Associated with the foregoing symptoms, or more often occurring independently, were various losses or perversions of localized function, usually classed as hysterical stigmas. These persisted after the patient had superficially resumed normal emotional control. On the whole, however, mutism, deafness, functional monoplegia, paraplegia, and functional spasms of the limbs were the result of localized suggestion rather than of generalized overwhelming of all the mental and emotional qualities, producing automatism and the temporary replacement of volitional by instinctive life.

By "localized suggestion" I mean some circumstances calculated to produce in a mind already apprehensive and strained a more or less fixed ideal of localized injury.

A case of paralysis due to local suggestion was that of a gunner wounded by a shell frag-

ment on the inner side of the left upper arm in May, 1915. The wound was slow in healing, and the arm was held by apparatus in the horizontal position for eight weeks to permit of irrigation and dressing. The wound healed with some adhesions around the ulnar nerve, causing a partial ulnar palsy and minor secondary adhesions in the shoulder joint through immobilization. From then on, he had a complete flaccid paralysis of the entire left upper extremity from the trapezius down to and including the intrinsic muscles of the hand. He was in a number of hospitals. More than eighteen months later he was discharged from the army with a total injury of the brachial plexus and, with satisfaction to himself, was finally pensioned. He was seen by me because he returned of his own accord to a London hospital to which I was temporarily posted to ask that the arm be amputated at the shoulder since it grievously interfered with his activities. No electrical assistance was invoked in this case, owing to the hypersensitiveness of the ulnar nerve through injury; but two conversations of explanation, persuasion, and tactful re-education—each of which, however, lasted for some two hours—restored complete range of movement to the arm and hand as far as was permitted by the organic disability.

It does not seem advisable to burden a communication of this kind with many case reports. That was done most fully by other observers. Indeed, the perversions and abrogations of function due, as has been said, to localized suggestion do not differ essentially from those seen in all neurologic hospitals of civil life. Naturally, the suggestions producing these conditions are of the most varied character, and identical disabilities may occur through a minor injury from being struck by flying earth, or as a result of a more serious injury from the diagnostic or verbal indiscretions of a medical officer.

Almost all injuries of the extremities, in my experience, are accompanied, for a short period at least, by a natural "defense immobilization" of the limb quite apart from any organic nerve injury. This is a natural reaction from pain in tired persons. A flesh wound of the upper arm, for instance, easily produces in such men the impression of inability to move the wrist and hand. And any doubts expressed by a physician as to whether or not, for example, a brachial plexus injury might not possibly account for the condition of the hand, sow the seeds of a fixed idea, which later may assume a sturdy growth.

afraid; their nervous systems may be said to be frightened, but their awareness knows no fear.

This submersion of such a powerful emotive force below the threshold of consciousness is due partly, perhaps, to the person's knowledge of the debilitating effects on his energies of the entrance of fear into his conscious life but much more, one feels sure, to the inhibitory influence of his morale. Now what is this thing we call morale? Is it not the expression in each soldier of his herd instinct, of his willingness to sacrifice himself for the benefit of his kind and for the ideals held in common by his countrymen and himself? It is a loyalty to his mates, to his officers, to his regiment, to his nation and, in the last instance, to the ideals of life for which his nation stands, and it is measured by his conscious willingness to suffer, his capacity for sacrifice in the common good. It is a quality born of the tribe, a product of gregariousness and so held socially in good repute. It is constantly expressed in thought; it is a real component of the soldier's conscious intellectual life. The shrinking from loss and the fear of death, on the other hand, are but rarely scrutinized in their realities; they are antisocial in trend and so are cast down, by good citizens, into the limbo of subconsciousness.

Perhaps I seem to you to have been wandering from my subject by these considerations; but one must try to discover something of the dynamic influences in our men, and I feel that a clue to the genesis of the neuroses is to be found in the antagonism, on the one hand, of the conscious emotions of loyalty and morale with their concomitant urge to self-sacrifice and, on the other hand, the more or less satisfactorily repressed instincts for the conservation of individual life.

The British soldier was not given overmuch to self-analysis and investigation of his emotional processes, but questionings carried out as tactfully as possible elicited in innumerable instances the information that being wounded subsequent to or during heavy shell fire is followed by a period of mental rest. And it would be strange were it otherwise. Such a man experiences a sense of an honorable relaxation of effort; he is, for the moment, quit of his obligations to others and freed from his fear of death. Further, his fate for the moment is decided and, despite his pain, he feels himself more fortunate than many of his fellows whom many times he has seen horribly destroyed. He waits for the stretcher-bearers to take him, and in most men there is a

conscious hope of a time of rest and home-coming.

In such experiences there are satisfied at once the man's biologic instinct for self-preservation and his social instinct of loyalty to his comrades and to that ideal of conduct which has been his buttress in times of agony and stress.

The converse situation, in which a soldier suffers the stupefaction and profound bewilderment consequent on exposure to heavy shell bursts *without* being wounded, is one in which the obligation to persevere still remains with him, together with a prospect of indefinite repetitions of like abominations, culminating, as after a time seems certain, in horrible mutilation or death. Under such circumstances the conscious morale and idealism of the man qualities, as has been suggested—of later growth than other instinctive processes—become drowned with the rising tide of his desire for life. The longing for safety, usually overborne by his conscious will, becomes overwhelmingly insistent and is expressed by the entire organism being given over to the phenomena of fear. The individual becomes in mind and body an automaton impelled by one instinct and one emotion; the mind, dazed and numbed, ceases to record impressions and is later found to be, for that period, amnesic. "Dumb" and "palsied by fright" are only popular expressions of the loss of special senses and the generalized tremors that ensue. The defensive reflexes, the dodging movements of the head, the sheltering movements of the arms, and the crouching movements of the body maintained for hours and days and, under improper influences, for weeks after the lapse of the exciting physical cause are an indication of the continued emotional tyranny under which he labors.

In different individuals this conquering of the nobler altruistic part of the man by the lower and more selfish instincts takes place in different ways. It may, and most often does, occur as the result of profound fright as has just been described or, after a long period of mental conflict and strain, there may come a situation carrying with it complexes of such emotional strength as to render almost helpless the will power to endure. Such a case was that of an officer of my acquaintance who, having borne the racking experiences of the landing and the trench fighting at Gallipoli, one day, jumping for what he took for solid ground, found himself—as he put it with a gesture of infinite disgust—"squelching thigh-deep in decomposed Turkish dead." For

ture of the problem with which we were, and are again, confronted. In doing so, only the psychologic aspects have been regarded, because these mental symptoms can be examined easily and treated successfully, though empirically, by rest, persuasion, re-education, and the restoration of self-confidence through suggestion and discipline. I have not been unmindful, however, of the physical changes which, accompanying violent emotional disturbances, result in alterations in the physiologic balance of the involuntary nervous system. We cannot yet know whether or not such reflex and secretory activities are the cause or the result of mental and emotional stress.

The collection of clinical and experimental data on such phenomena as, for instance, the functional disorders of cardiac rhythm following emotional tension (for example, for two days after being unpleasantly bombed I found my pulse rate irregular and uniformly over 100, though conscious of no mental strain once the danger was over) or dyspnea accompanied by increased absolute blood acidity. Similar cognate problems may in the future throw light on the association of integral activities of mind and body.

Such data, however, do little, as yet, to reveal the intrinsic nature of mind. To cope adequately with the wastage of health and of armies involved in this question, we must perforce deal with mental phenomena rather than with mind, and apply, with some empiricism, psychologic remedies to psychologic ills.

Much of what I have said was written a quarter a century ago. It was true then and is now. I would add a word on what I have heard from medical men and civilians and from official reports sent to Washington, put down in the light of my own experience.

Bombing from airplanes produces less neuroses than does shelling. This is natural for three reasons:

1. When shelled, you know the enemy has the range, and one has a nasty sensation of being personally applied for.

2. Bombing is a "catch as catch can" affair; it seems like a bad thunderstorm; one helpfully remembers that "lightning never strikes twice in the same place"; there are intervals of quiet.

3. There is nowhere to go that is safe.

It was the same in the last war; neuroses did not come out of bad air raids, and there were some raids just as bad in point of dead and wounded as there are now. At that time there was less defense against them.

The neuroses now come more from the petty bothers of a disturbed life, such as lack of sleep and broken plans, and it would seem that in point of endurance of these troubles the women do better than the men. After great department stores had been heavily bombed but were still able to continue business, only one-half of 1 per cent of employees, mostly women, failed to report next day for work.

In this war it is found that conversion hysteria, such as a hysterical palsy, cures anxiety just as a wound cures a strained emotional state; but there aren't many cases of conversion hysteria. Gordon Holmes writes to me that the rather elaborate neuropsychiatric centers prepared before the war and during the comparatively quiet first year have been almost unused. The neurologic center equipped for the use of the Royal Air Force has never been opened, despite the strain of the Battle of Britain in the second six months of 1940. This is not to say that pilots of the R.A.F. suffer no nervous symptoms. They will have an anxiety state if they are not sure of their equipment, if they have machine guns only and no cannon, if they lack confidence in their ground crew, should they be uncertain of the integrity of their landing gear, should they lack the certainty of being warned by their home airfield early enough that it has become covered with fog since they left so that they may be routed to some other landing field that is clear. Mutual regard, mutual integrity, mutual confidence, loyalty unto death in all, and the knowledge that there is no possible escape—there, then, is little failure in nervous strength. Fliers after 1,000-mile flights in bad weather conditions, heavily "flacked," who perhaps have had to bring down a wounded gunner to safety, may, after arrival, pass into apparent stupor and mutism and for twenty-four hours may be completely immobile in bed except for trembling of a constant character, but these officers are often able to take to the air again in thirty-six hours after that period. It would seem that a flier who begins to sit apart broodingly, is edgy, snappish, and critically harsh of his seniors, should not again be sent up until he is rested.

In the last war I found myself for about ten months the sole judge of whether flying officers who said they were unable to fly that day should or should not be sent up. I lacked the education or knowledge by which to determine this issue. I knew from my own experience that under strain there occurs ob-

Psychologic Character of the Problem

This brings us to the vital factor underlying the successful treatment of all somatic expressions of psychic unrest. In a word, it is *accurate technical knowledge*. The power to make a careful physical examination, to weigh evidence with precision and, thereby, to attain correct diagnosis, is the *only* power that will give the medical officer sufficient self-confidence to be able to communicate healing to his patient.

Time and again I have seen a half doubt in diagnosis prevent a coming together of the minds of physician and patient. If the medical officer is not entirely certain of the nature of the condition under review, his ability to cure it will be inhibited by a suspicion of the existence either of an organic nerve lesion, on the one hand, or of a conscious malingering on the other.

In short, functional motor and sensory palsies and functional perversions of the special senses are created by suggestion directed toward the affected faculty or member and are susceptible of cure by like means and only by like means. To differentiate them easily and rapidly from similarly appearing organic conditions is the first and most important step in their treatment and one which, having been taken with firmness and accuracy, will confer on the medical officer the self-confidence and authority to exorcise the system of false ideas that has been the immediate cause of the condition.

I say "immediate cause," for in these cases due to localized suggestion there is undoubted evidence of the presence and effects of the same mental conflict, the strain of which produces in other men states of anxiety or other generalized psychoneuroses still more incapacitating for military duty.

Soldiers since the beginning of armies have been clear-eyed in their knowledge of the conflicts of instincts. They have not, of course, dealt in the turgid phrases of our schools, but they have felt surely the binding qualities of the herd and have seen in them the only emotive force fit to overcome in their men their fear of death. They, too, have known that the cement of the herd is the suggestibility of man and that their instrument of suggestion is called "discipline."

So in this matter the medical officer has an onerous and difficult task.* He acts both for

the state and for the soldier, and to deal fairly with both clients it is vital that he should appreciate the truly psychologic character of the problem with which he has to wrestle. Only by so doing can he free his patient of his symptoms and, what is still more important, protect the armies from the contagion of suggestion so apt to sweep through such closely coordinated communities, each individual of which is exposed to identical causative conditions.

The essential feature of these ailments having been grasped, they must be classified and christened. In the beginning of this paper it was pointed out how the term "shell shock," founded on false premises, not only served to suggest an incorrect etiology but also, by its pitiful and romantic sound, tended to perpetuate symptoms and to excite no determination in the mind of the sufferer to recover his control or, in the fighting man, still to endure. So far was it from making an appeal to conscience or to discipline that it stifled both and stultified effort toward cure.

The name was a mistake: we must hear it no more. Let us have instead a true term that will be neither a compromise nor a technicality unintelligible to the mind of the soldier.

Hysteria is unsuitable, in that its significance to laymen and physicians is not identical; nor does it embrace, for instance, such conditions as the anxiety neuroses. The simple word, "nervousness," comprises all the neurotic manifestations seen in war. It furnishes an appeal to the sense of discipline in the armies, and further promotes the growth of a public opinion, both military and civil, which would be of greatest prophylactic and therapeutic power.

This diagnosis should continue to be divided into nervousness (sick) and nervousness (wounded) as now obtains, according to the external conditions to which the man was exposed at the time of the breakdown. This change in military nomenclature would make clear to both soldiers and civilians that such diagnoses need not necessarily be followed by a return to home or to the base, and would clearly indicate the propriety of dealing with such cases diagnostically and therapeutically in rest camps, and especially work camps, in front areas and on the lines of communication.

What has been written here is simply an attempt to set down in general terms the na-

* Indeed the two officers in a battalion chiefly responsible for the morale of that battalion, are the Colonel and the Medical Officer. The M.O. ought to be the "liaison officer" between the men and the other officers. He usually

censors the battalion letters; he ought to know the men by name; he must, on occasion, go anywhere the men go; he must have fortitude and must know how to temper it with kindness and firmness. If he can conquer fear himself, the men will also.

SERODIAGNOSIS OF TRICHINOSIS BY MEANS OF COMPLEMENT FIXATION

ERNEST WITEBSKY, M.D., PHILIP WELS, M.D., and ANNE HEIDE, Buffalo, New York

ACID hydrolyzed extracts of larvae of *Trichinella spiralis* were first prepared by Bachman^{1,2,3} and used as antigen for skin and precipitation tests for the diagnosis of trichinosis. Since Bachman's investigations, interest in the laboratory diagnosis of trichinosis has become general. Hunter;⁴ Augustine and Theiler;⁵ McCoy, Miller, and Friedländer;⁶ Bachman, Molina, and Gonzalez;⁷ Trawinski;⁸ Bozicevich;⁹ and others contributed greatly to the knowledge accumulated so far as to the technics of antigen preparation, as well as interpretation of the reactions obtained.

The complement fixation test in trichinosis has been employed as early as 1911 by Ströbel,¹⁰ Romanovitch,¹¹ and again by Bachman and Menendez¹² mainly in animal infestations. To our knowledge the results did not stimulate any further interest in the development of a complement fixation test. For that reason and because there could be no question about the presence of antibodies in the blood serum in infestations with *T. spiralis*, we tried to develop a complement fixation test that could be applied for the serodiagnosis of human trichinosis.

Material

Serums from infested human beings, as well as from experimentally infested rabbits, were examined. The rabbits were infested by feeding them infested rats in the following way: In the first group the rabbits were infested by forcing a piece of diaphragm of infested rats down their throats, followed by water given with a dropper. They were held on their backs until we were sure that they had swallowed the material. The animals were reinfested three weeks later with part of an infested diaphragm as described above. The rabbits in the second group were stomach-tubed with larvae obtained as described in the next paragraph. Later on, they were again reinfested with a part of an infested diaphragm. Altogether, twelve rabbits were infested.

Trichinella larvae were obtained in the following way: Rats were infested with trichinous meat and killed five to six weeks after infestation. The rats were skinned and eviscerated, and the remainder of the carcass was minced in a meat grinder. The ground meat was placed in a funnel over a perforated porcelain plate. Digestive fluid was prepared by adding pepsin and hydrochloric acid to tap water, and the apparatus containing the material was placed in the incubator at 37 C. for about one day. The larvae were liberated from their cysts by the digestive fluid. They fell through the stem of the funnel into a small centrifuge tube that was attached by a piece of rubber tubing. The larvae were then washed with saline solution and dried in a desiccator. The method described was originated by Hobmaier and Meyer.¹³ As to the details of the method used, we refer to the publication by Bozicevich⁹ from the Public Health Service in Washington.

Experimental

Watery extracts were prepared from the dried and powdered larvae. Fifty parts of alkaline saline solution (pH 8.0) were added to one part of the dried powder. The mixture was extracted at room temperature for three to four hours, during which time it was thoroughly shaken several times. Extraction was continued in the icebox overnight. The material was then spun down. The supernatant fluid was decanted and boiled for fifteen minutes in a boiling water bath. A fairly large precipitate was formed which was thoroughly spun down for one hour in the centrifuge. The clear supernatant fluid was used as the antigen in our experiments.

The antigen was boiled because of occasional nonspecific reactions that occurred when unboiled material was used in the complement fixation test. Boiled antigen had been employed previously by other experimenters, but it had been discarded because it was their impression that there was a loss of activity. According to our experience, boiling decreases the activity of the antigen in test-tube experiments only slightly. The

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From the Department of Pathology and Bacteriology, University of Buffalo School of Medicine, and the Bacteriological Laboratory of the Buffalo General Hospital.

sessional thinking about one's own destruction. So, after a physical examination I would ask these officers if, when they were flying, they ever saw themselves in their mind's eye crash. If they seemed to understand what I was talking about, I never let them fly; and they usually did understand, for they were honest men. Imagination, self-consciousness, fatigued obsessional thinking do not go with the orderly conditioned reflexes needed for good flying.

It would seem, too, that this time civilian neuroses are sometimes *cured* by the real experience of war, and validity replaces invalidism. We know in civil life that peptic and duodenal ulcers come as a result of prolonged emotional strain. It is so also in war. Bombing makes for unpunctuality in meals, as well as uncertainty of survival. This dual irregularity has made a great increase in England, among soldiers and civilians, of gastric and duodenal ulcer. I gather from British reports that in bad times common horse sense and good social welfare work help more than do the doctors of the mind. Also that the great majority of civilians would rather be bombed in town than bored in the

country; and that perhaps the most important weapon against nervous breakdown in war is a sense of unity with your immediate group. It is vital that children before 11 years of age have a sense of unity in their family and that after 11 they have a sense of unity in their school. Disunion in either of these groups causes uncertainty of action in the person who feels uncertain, and at the end of all, if society is even temporarily disrupted, childish or adolescent delinquency can be traced back invariably to the removal of parental control. The herd instinct has been described as important in helping each individual do his task. We know from this war that each man's social reputation is important to himself. The small town man is always afraid of the neighbors' opinion. In Britain it has never been "good form" to show overmuch emotion; this is a precious asset when bombs are falling. *Of course*, each man is afraid, but, if he is never allowed to show fear and if he shows little fear to others, panic is not spread. Discipline to be perfect must be within—only in lesser terms from without.

410 East 57th Street

FELLOWSHIPS IN PSYCHIATRY

The National Committee for Mental Hygiene announces a limited number of fellowships for training in extramural and child psychiatry. Selected fellows will spend one or two years in a designated clinic, the term and plan of the fellowship to be determined by the peculiar needs of the applicant. Candidates should have had at least a general internship and two years of psychiatry in an approved mental hospital service in addition to other qualities fitting them for extramural service. The stipends vary slightly with location and status of the fellow but in general range between \$2,000 and \$2,600. Additional information should be obtained from Dr. Milton E. Kirkpatrick, National Committee for Mental Hygiene, 1790 Broadway. New York.

SPARKPROOF SHOES FOR TROOPS

Sparkproof shoes are among the latest types of footwear being tested by the Army, says the J.A.M.A. for November 1. The new shoes are designed for soldiers who dispense gasoline and other inflammable materials, particularly in the Armored Force where a spark may be disastrous.

Vulcanized fiber instead of metal is being used for washers in the heels of these new shoes, and the nails are made of a nonsparking metal. Shoes made according to this new design are being given a thorough workout by soldiers of a gasoline and oil battalion in the Armored Force. If they prove satisfactory, all soldiers who perform duties in which a spark may be dangerous will be provided with these sparkproof shoes.

P. & S. ALUMNI DINNER

The annual American Medical Association dinner of the Alumni of the College of Physicians and Surgeons, Columbia University, will be held at the Hotel Claridge in Atlantic City, New Jersey, on Wednesday, June 10, 1942, at 7:00 P.M. The local committee in charge will be Dr. Robert B. Durham, '28, chairman, Dr. John S. Irvin, '12, and Dr. Clifford K. Murray, '25.

MATHEMATICALLY SPEAKING

A dusky son of Alabama was busily engaged in a cootie hunt. When asked by the sergeant what he was doing, he replied:

"I'se huntin' for dem 'rithmetic bugs."

"Why do you call them arithmetic bugs?"

"'Cause dey add to da misery, dey subtracts from my pleasure, dey divides ma attention, and dey multiplies like de debil."

—*Milwaukee Medical Times*

TABLE 3.—INFLUENCE OF INCUBATION TIME AND TEMPERATURE ON THE SENSITIVITY OF THE COMPLEMENT FIXATION TEST USING DECREASING AMOUNTS OF SERUM AND A CONSTANT AMOUNT OF ANTIGEN DILUTION

Dilution of Serum	Serum of Rabbit No. 149 Infested for Three Months		Normal Rabbit Serum		Patient Serum R. I.		Normal Human Serum	
	a*	b†	a	b	a	b	a	b
	Part 1: Incubation Time, One Hour at 37 C.							
(1) 1:3	C	C	C	C	C	C	C	C
(2) 1:6	M	C	C	C	C	C	C	C
(3) 1:12	O	TR	C	C	C	C	C	C
(4) 1:24	O	O	C	C	C	C	C	C
(5) 1:48	O	O	C	C	C	C	C	C
(6) 1:96	O	AC	C	C	C	C	C	C
(7) 1:192	O	C	C	C	C	C	C	C
(8) 1:384	C	C	C	C	C	C	C	C
(9) 1:768	C	C	C	C	C	C	C	C
(10) 0	C	C	C	C	C	C	C	C
Part 2: Incubation Time, Two Hours in Icebox, One Hour at 37 C.								
(1) 1:3	TR	C	C	C	O	TR	C	C
(2) 1:6	O	AC	C	C	O	O	C	C
(3) 1:12	O	O	C	C	O	O	C	C
(4) 1:24	O	O	C	C	TR	O	C	C
(5) 1:48	O	O	C	C	C	C	C	C
(6) 1:96	O	O	C	C	C	C	C	C
(7) 1:192	AC	O	C	C	C	C	C	C
(8) 1:384	C	C	C	C	C	C	C	C
(9) 1:768	C	C	C	C	C	C	C	C
(10) 0	C	C	C	C	C	C	C	C
Part 3: Incubation Time, Overnight in Icebox, One Hour at 37 C.								
(1) 1:3	O	TR	C	C	O	O	C	C
(2) 1:6	O	O	C	C	O	O	C	C
(3) 1:12	O	O	C	C	O	O	C	C
(4) 1:24	O	O	C	C	O	O	C	C
(5) 1:48	O	O	C	C	O	O	C	C
(6) 1:96	O	O	C	C	O	O	C	C
(7) 1:192	O	O	C	C	O	O	C	C
(8) 1:384	TR	C	C	C	C	C	C	C
(9) 1:768	C	C	C	C	C	C	C	C
(10) 0	C	C	C	C	C	C	C	C

* Read after twenty-five minutes.

† Read after ninety minutes.

was used. This might account for the slight reaction obtained with normal rabbit serum. We had an opportunity to follow the patient up to April, 1941, and to take blood specimens from her at different intervals. The serum specimens were frozen in order to keep them over this long period of time. The following experiment shows the comparison in titer of different specimens taken from the patient at intervals of one to two months, respectively.

Decreasing amounts of inactivated patient serum, volume 0.1 cc., were mixed with a 1:500 dilution of the antigen and 0.1 cc. of a 1:20 dilution of guinea-pig serum. After incubation for one hour at 37 C., 0.2 cc. of sensitized sheep cells were added. The reading was taken after twenty-five minutes' incubation at 37 C., after which time the serum and extract controls had dissolved completely.

A steady decrease from an original high in the antibody titer of the patient can be recognized from Table 2. This high apparently was reached one to three months after infestation. It should be stated that the last blood examination of the patient was carried out on April 9, 1941, fourteen months after

infestation. The serum still gave a positive reaction.

A blood specimen from a second patient (R. I.) with trichinosis was obtained two weeks after infestation, according to the story of the patient. The diagnosis had been established by biopsy. When examined by means of the precipitation test the serum gave a slight precipitation after four hours' standing at room temperature in an antigen dilution of 1:50. It should be mentioned in this connection, however, that precipitation tests of that type as a whole should not be kept for such a long time but should be read earlier because of the possible interference of nonspecific reactions. The results obtained with the complement fixation also were irregular. Therefore, we tried to increase the sensitivity of the complement fixation test. This was accomplished in the following way:

Decreasing dilutions of inactivated serum, volume 0.1 cc., were mixed with 0.1 cc. of the 1:2,000 diluted trichinella antigen and 0.1 cc. of a 1:20 dilution of guinea-pig serum. The experiment was set up in three parts (see Table 3). Part 1 was incubated for one hour at 37 C.; Part 2 was kept for two hours in the icebox and then transferred to the in-

TABLE 1

Precipitation Test for Trichinosis					
Dilution of trichinella antigen	Serum of rabbit No. 137 infested for three months	Serum of patient A. K.	Normal rabbit serum	Normal human serum	
(1) 1:50	+++*	++	—	—	
(2) 1:100	+++*	++	—	—	
(3) 1:200	+++*	++	—	—	
(4) 1:400	+++†	—	—	—	
(5) 1:800	+++†	—	—	—	
(6) 1:1,600	+++†	—	—	—	
(7) 1:3,200	+++†	—	—	—	
(8) 0	—††	—	—	—	

Complement Fixation Test for Trichinosis					
Dilution of trichinella antigen	Serum of rabbit No. 137 infested for three mo.	Serum of patient A. K.	Normal rabbit serum	Normal human serum	Saline control
(1) 1:100	O	O	M	C	C
(2) 1:200	O	O	AC	C	C
(3) 1:400	O	O	AC	C	C
(4) 1:800	O	O	AC	C	C
(5) 1:1,600	O	O	C	C	C
(6) 1:3,200	O	O	C	C	C
(7) 1:6,400	O	O	C	C	C
(8) 1:12,800	O	O	C	C	C
(9) 1:25,600	M	M	C	C	C
(10) 0	C	C	C	C	C

* Very strong agglutination.

† Strong agglutination.

‡ Moderate agglutination.

** Slight agglutination.

†† Faint agglutination.

O = No agglutination.

O = No hemolysis.

M = Moderate hemolysis.

AC = Almost complete hemolysis.

C = Complete hemolysis.

TABLE 2.—DETERMINATION OF THE ANTIBODY TITER IN DIFFERENT SERUM SPECIMENS OF PATIENT A. K. BY MEANS OF COMPLEMENT FIXATION

Dilution of Serum	Specimens Taken on				Normal Patient Serum
	March 13	May 9	June 4	July 9	
(1) 1:5	TR	O	O	TR	C
(2) 1:10	O	O	O	O	C
(3) 1:20	O	O	O	O	C
(4) 1:40	O	O	O	O	C
(5) 1:80	O	O	O	AC	C
(6) 1:160	O	M	O	C	C
(7) 1:320	M	AC	AC	C	C
(8) 1:640	C	C	C	C	C
(9) 1:1,280	C	C	C	C	C
(10) 0	C	C	C	C	C

TR = Trace of hemolysis.

this patient on March 1, 1940, and was examined as to the presence of antibodies in the serum by means of precipitation and complement fixation. Table 1 shows the results of those tests.

The experiment itself was carried out in two parts—Part 1, a precipitation test; Part 2, a complement fixation test. The following serums were used in both parts of the experiment: (1) serum of rabbit No. 137 infested with *T. spiralis* for three months; (2) serum of patient, A. K.—specimen taken March 1, 1940; (3) normal rabbit serum; (4) normal human serum.

The precipitation test was set up in the following way: To decreasing dilutions of the antigen, volume 0.05 cc., were added 0.05 cc. of undiluted active serum. The tubes were shaken thoroughly and kept in the ice-box overnight because the serum did not show any definite precipitation after being kept for a short time at room temperature.

The complement fixation test was done in the following way: Decreasing amounts of antigen, volume 0.1 cc., were mixed with 0.1 cc. of diluted inactivated rabbit or human serum, respectively, and 0.1 cc. of a 1:20 diluted guinea-pig serum. The rabbit serums were diluted 1:10; the human serums, 1:5. The tubes were kept for one hour at 37 C., and then 0.2 cc. of sensitized sheep cells were added.

As can be seen from Table 1, rabbit serum No. 137 gave strong precipitation with an antigen dilution up to 1:1,600, while the patient serum gave only a weak precipitation in a dilution up to 1:100. In contradistinction to that, strong positive reactions were obtained with both rabbit and patient serum in high dilutions of the antigen with the complement fixation test.

The experiment given in Table 1 was one of the first ones carried out during the course of our investigations, and unboiled antigen

elimination of nonspecific reactions, however, constitutes an important advantage.

The first patient, A. K., whom we had the opportunity to examine, gave the following history: The patient ate roast pork on February 10, 1940. She stated that she might have eaten a piece of rare meat. On February 14, 1940, she felt weak and had frequent bowel movements. She suffered intermittent cramplike pains in the lower part of the abdomen but had no tenesmus. From then until February 17, 1940, these symptoms continued. On the fourth day after onset the abdominal cramps disappeared but diarrhea continued. Since the onset of the disease, the patient's face had become swollen. There was a marked conjunctivitis since February 23, 1940. The patient perspired profusely, especially at night. The white blood count was 27,750 with 48 per cent eosinophils. *T. larvae* were found in the blood sediment. An intradermal test with trichinella antigen obtained from the United States Public Health Service was positive. Muscle biopsy was done on February 27, 1940, and found to be positive for trichinosis.

The first blood specimen was obtained from

Conclusions

Serodiagnosis of trichinosis by complement fixation is described and its diagnostic application evaluated. The test is sensitive and specific. Boiled watery extracts of dried larvae are used as antigen. The test can be carried out as a quantitative procedure, and the increase and decrease of the antibody titer can be observed over a period of time.

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We are indebted to Dr. W. H. Wright of the United States Public Health Service, Washington, D. C., for his most valuable suggestions and for material he placed at our disposal for our investigations.

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Discussion

Dr. Ward J. MacNeal, *New York City*—This problem of trichinosis is now of considerable public interest. A committee of the State Legislature is engaged in its study with a view to enactment of law for protection against the parasite. I should like to ask Dr. Witebsky whether he has had opportunity to apply his diagnostic tests to the practical recognition of the disease in swine. Adequate blood specimens could doubtless be obtained from the tails of these animals

AMERICAN CONGRESS ON OBSTETRICS AND GYNECOLOGY TO MEET IN APRIL

The general features of the program for the coming Congress to be held in St. Louis, Missouri, April 6 to 10, are as follows:

The morning sessions will be divided into two periods, from nine-thirty to eleven, and from eleven to twelve. The more formal presentations will appear in the first period.

Monday morning at eleven o'clock there will be a general "Obstetric Information Please," based on the well-known quiz program and presided over by a moderator and four experts. This will be repeated on Wednesday morning for shock and hemorrhage and on Friday for economics. Clinical conferences on genital infections will be held Tuesday morning at eleven and Thursday morning on "How Not to Treat Carcinoma." During the afternoons various groups will present formal programs devoted to nursing, public health, and hospital administration, among which will be certain combined programs.

A special feature of this Congress will be a

daily consultation service at three-thirty. About fifty nationally known physicians will make themselves available for fifteen-minute consultations through a registration system by individual practitioners who may desire such advice in their specific problems.

Round-table discussions will also be arranged by the section chairmen.

Practical demonstrations are scheduled in the scientific exhibit area on manikin deliveries, home-care technic, and blood transfusions. Details of programs of other sections will appear shortly.

Further information is available at the Central Office of the Congress at 650 Rush Street, Chicago. Hotel reservations should be made directly and at an early date. Physicians, nurses, public health administrators, educators, and hospital administrators are urged to send in their registration fee of \$5.00.

—GEORGE W. KOSMAK, M.D.
Chairman, Professional Publicity

"WALK FOR VICTORY"

In a resolution recently adopted the Medical Society of the County of Erie pledged itself to encourage civilians to "walk around a block a day" so that the nation might become physically "toughened" for the war effort.

Dr. Harry C. Guess, in offering the resolution, cited the great use made by Germany of walking

tours to build up civilian health. The program, if found to be feasible, might one day become a national health project, he said.

"It will help the people mentally, too, by giving them at least twenty minutes for thought and reflection," he said. "We might use slogans like 'A block a day keeps the doctor away.'"

TABLE 4.—INFLUENCE OF INCUBATION TIME AND TEMPERATURE ON THE SENSITIVITY OF THE COMPLEMENT FIXATION TEST USING DECREASING AMOUNTS OF ANTIGEN AND A CONSTANT AMOUNT OF SERUM DILUTION

Dilution of Boiled Trichinella Antigen	Serum of Rabbit No. 150 Infested for Three Months	Normal Human Serum	Normal Rabbit Serum	Saline Control
Part 1: Incubation Time, One Hour at 37 C.				
(1) 1:200	TR	C	C	C
(2) 1:400	O	C	C	C
(3) 1:800	O	C	C	C
(4) 1:1,600	AC	C	C	C
(5) 1:3,200	C	C	C	C
(6) 1:6,400	C	C	C	C
(7) 1:12,800	C	C	C	C
(8) 0	C	C	C	C
Part 2: Incubation Time Two Hours in Icebox, One Hour at 37 C.				
(1) 1:200	TR	C	C	C
(2) 1:400	O	C	C	C
(3) 1:800	O	C	C	C
(4) 1:1,600	O	C	C	C
(5) 1:3,200	O	C	C	C
(6) 1:6,400	O	C	C	C
(7) 1:12,800	C	C	C	C
(8) 0	C	C	C	C
Part 3: Incubation Time, Overnight in Icebox, One Hour at 37 C.				
(1) 1:200	O	C	C	C
(2) 1:400	O	C	C	C
(3) 1:800	O	C	C	C
(4) 1:1,600	O	C	C	C
(5) 1:3,200	O	C	C	C
(6) 1:6,400	O	C	C	C
(7) 1:12,800	O	C	C	C
(8) 1:25,600	O	C	C	C
(9) 1:51,200	M	C	C	C
(10) 1:102,400	M	C	C	C
(11) 1:204,800	C	C	C	C
(12) 0	C	C	C	C

cubator for one hour; and Part 3 was kept in the icebox overnight and then placed in the incubator for one hour at 37 C. To all tubes, 0.2 cc. of sensitized sheep cells were added. The first reading was taken after twenty-five minutes', and the second reading after ninety minutes', incubation at 37 C.

The experiment shows that there is a definite increase in sensitivity in Parts 2 and 3 as compared with Part 1. A surplus inhibition occurs in the higher serum concentrations with both rabbit and human trichinosis serums.

If the order of experiment is changed and serial dilutions of the antigen are mixed with a constant amount of serum, the same increase in sensitivity is observed as shown in experiment 4, which follows.

Decreasing amounts of antigen, volume 0.1 cc., were mixed with 0.1 cc. of (a) a 1:10 dilution of rabbit serum No. 150, (b) a 1:5 dilution of normal human serum, and (c) a 1:10 dilution of normal rabbit serum. One-tenth cubic centimeter of a 1:20 dilution of guinea-pig serum was then added to all tubes. Part 1 was incubated for one hour at 37 C. Part 2

was kept in the icebox for two hours and then transferred to the incubator for one hour at 37 C. Part 3 was kept overnight in the icebox and then placed in the incubator for one hour at 37 C. To all tubes, 0.2 cc. of sensitized sheep cells were added. The results given in Table 4 were obtained after the control tubes had completely cleared. The increase in sensitivity is evident from the preceding experiment and depends upon the length of incubation period to which the antigen-serum mixtures have been submitted.

Five more cases of trichinosis were examined serologically during the first few months of 1941. In 2 cases the diagnosis was confirmed by biopsy; in 3 cases no biopsy was performed, but clinical manifestations and history were suggestive of trichinosis. Two of the cases were of special interest inasmuch as negative tests were obtained before antibodies became demonstrable in the patient's serum. In 1 case (U.) it took six weeks for the test to become positive in a serum dilution of 1:5. The antibody titer of this patient rose to 1:640 ten weeks after infestation. The first positive serum specimen with a titer of 1:5 was examined with decreasing amounts of antigen and a constant amount of serum dilution (1:5). In this order of experiment the patient's serum reacted with an antigen dilution up to 1:8,000.

In order to see how the complement fixation test for trichinosis would work as an abbreviated routine procedure in serodiagnostic practice, two different methods were tried. The first method consisted of mixing several dilutions of boiled trichinella antigen with a constant serum dilution. The second method consisted of mixing decreasing amounts of serum dilution with a constant amount of trichinella antigen. Both methods seem to be feasible and might be recommended. In the first method a 1:500 and a 1:2,000 dilution of trichinella antigen were mixed with a 1:5 or 1:10 dilution of inactivated patient serum; it was kept for two to three hours in the icebox and then placed in the incubator for one hour. In the second method a 1:2,000 dilution of boiled trichinella antigen was mixed with serial dilutions of patient serum, such as 1:5, 1:10, and 1:20. The latter method is preferred by us. Out of 1,000 human serums examined in this way as controls, only one gave a definite positive reaction in both complement fixation and precipitation tests. This serum was obtained from a healthy blood donor who gave no history of trichinosis.

pared with the given standard color shades, thus establishing the required figures.

It is essential that the test be performed on many different locations on the skin of each individual whose acidity is examined. Not only the places that are affected by a dermatosis must be tested but also apparently normal parts, such as areas close to the affection and, possibly the areas localized symmetrically to the affection on the other half of the body. It will be seen that the figures are of value *only when compared with the pH found at the same time on the normal skin of the tested individual.*

Results on Normal Skins

Figures obtained by our method on the various skin regions of normals are as follows: face, trunk, upper and lower extremities, hands, and feet—pH 3.5–5.8; groins—pH 5.5–6.3; between the toes—pH 5.5–6.5; and in the armpit—pH 6.5–8.0. As a rule, values are more on the acid side on the forehead than on the cheeks and chin; more acid on the flexor surfaces of the arms and hands than on the extensor surfaces; more acid on the dorsal aspects of the feet than on the plantae.

It is noteworthy that the pH measured by our technic directly on the skin is often lower than the pH of sweat collected from the same place and immediately investigated. For example, on the skin (forehead) we found on a hot day a pH of 4.9; in the sweat collected from the same place, a pH of 5.4. This difference is easily explained by the fatty acids present in the skin which will not be drawn up into capillaries when collecting sweat. This shows why measurements have to be done *on* the skin proper when true values are to be obtained.

Salient and repeated deviations are the effect of certain external influences. As an example we note a difference of the values found on 16 persons during hot and during cool weather. There has been an increase in acidity when the temperature is high; the deviation varies individually in the order of two units of pH—for instance, from 5.8 to 4. This decrease of pH in hot weather cannot be explained merely by the increased excretion of sweat, for it has been stated that the acidity decreases during a continued excretion of sweat. To compensate for such a pH increase proportional evaporation is necessary, but to produce an increased acidity the evaporation must prevail. This appears to be the case on hot days. The tendency to a higher acidity in summer works out as a

physiologic process of protection because more germs approach during the hot days.

Another common outside influence able to change the pH on the skin is the use of soap. Our results concur with those of Hansen who found, normally, an increase of pH for about three and a half hours after washing with soap and water. This increase depends upon the quality of the soap used and upon the individual condition of the skin. Ordinary toilet soap and *sapo medicatus* do not usually cause a raise of the pH by more than 1–1.5, whereas *sapo kalinus* often effects an increase of 2.0. In the presence of some skin abnormalities where the pH is shifted toward the alkaline side, the influence of soap on the pH is both particularly marked and prolonged.

It follows from the foregoing that previous use of soap has to be considered when evaluating pH tests on the skin. The change of pH under the influence of soap suggests that the biologic buffer capacity on the skin is dependent upon the presence of the fatty acids, which are saponified and extracted by soap.

The effect of soap will surely cause frequent temporary variations of pH. Persons to be tested must be instructed not to wash themselves in the morning before examination.

In a discussion of the report on the influence of soaps on the hands of housewives by Jordan, Dolce, and Osborne, Parkhurst¹² suggested that the decrease of skin sensitivity to soap during summer might be explained by an increase of free perspiration. Parkhurst quoted Hansen who had found that the time of alkalization on the forearm after washing with soap was reduced to one and one-half hours when the person was perspiring freely. This is in agreement with our findings. The decrease of pH during the hot season explains the improved tolerance to soap in summer.

Results on Diseased Skin

Patients with various dermatoses have been examined by our method—namely, 16 cases of eczema, 8 cases of hyperhidrosis, 12 cases of dyshidrosis, 12 cases of superficial mycosis, 1 case of pityriasis rosea, 6 cases of psoriasis, 1 case of myxedema, 2 cases of senile atrophy, and 1 case of rosacea.

Generally, pH is higher on inflamed areas than on the normal skin of the same individual. This may be caused to a large extent by the lack of perspiration from the degenerated or “blocked” parts of the epithelium. However, by a closer analysis of our findings, additional factors able to modify the acidity on the skin came to light.

THE ACIDITY ON THE SURFACE OF THE SKIN

EUGENE TRAUGOTT BERNSTEIN, M.D., and FRANZ HERRMANN, M.D., New York City

SHARLIT and Scheer¹ demonstrated an acid reaction (pH 5.5) on the surface of the human skin. This observation has been confirmed and supplemented by a number of other authors^{2a,2b,6d} who have improved the methods.

The acidity depends chiefly on the quality of the sweat. Areas where free perspiration is possible were found to be more acid than locations where evaporation is slower. Thus, on forehead, breast, and "free" surface of the extremities, pH values of from 4.5-5.5 were reported, whereas pH values of from 6.0-7.0 were measured in the groins and between the toes. The mainly apocrine sweat in the armpit is still more alkaline (pH 6.1-8.1). Schade and Marchionini^{2a,2b} point out that the high acidity in the areas of free perspiration is due to concentration of fatty acids. Lowering of evaporation favors increase of alkalinity by decomposition of hydrated keratin.

The presence of certain acids (acetic, propionic, caproic, caprylic, lactic, and ascorbic acids) is a natural protection against parasitic invasions. An abnormally high pH means a breakdown of the physiologic "acid coat" of the integument; it provides a condition^{3a} favorable for the growing of several pathogenic germs—for example, of fungi. A number of dermatoses, particularly those caused by fungi, can indeed be cured by restoring the acidity of the skin—systematic stimulation of perspiration in a sweating box followed by a *thorough evaporation*.⁴

The electrometric method of pH determination gives the most exact figures and allows the measurement directly on the skin surface; thus, examination of circumscribed areas is possible, whereas other methods require a collection of sweat so that the area of investigation cannot be exactly limited. However, the potentiometric methods are rather delicate and the apparatus is rather expensive.^{2,3,6,7}

Several tests with pH indicator solutions have been used (first by Sharlit and Scheer,¹ then by Memmesheimer,⁹ Hansen,¹⁰ Scholtz,¹¹

and others). This procedure engenders the use of three different indicators. The test is, therefore, performed on a comparatively large area that may fail to possess a uniform acidity. Besides the technical inconvenience of using several indicator solutions, this method also lacks a satisfactory basis of comparing the color shade obtained, for the shade of the under-ground—namely, of the skin—varies in itself.

The so-called foil colorimeter also proved to be inaccurate for our purpose because of the membrane "error" and of the necessity of obtaining a sufficient sweat excretion. Furthermore, all kinds of absorbent papers, such as purified filter papers, were found to be deceptive when they were used to absorb the test fluid that was colored by an indicator. The shades obtained in the absorbent paper, compared with pH standard shades, indicate too acid figures.

A Simplified Method for Measuring Skin Acidity

This situation caused us to look for a simplified method of measuring skin acidity, which is as follows: The Stanscién universal indicator with a pH range between 1-11 has been selected. This indicator is dropped on the skin under *strictly comparable conditions*, is recovered in capillaries, and is compared with the given standard of colors. This procedure gives figures of sufficient accuracy. Thus, one of the two errors referred to by H. I. Blank has been overcome, the difficulty of evaluating the colors on the skin. The other difficulty, the possible interference of oxidizing or reducing substances, still remains, but this possibility has not proved to be of importance for our purpose because only wide differences have been considered to be significant.

The technic in detail is as follows: One drop of wide range indicator solution is dropped by pipet on the selected location. The size of the drop should be kept constant and should be stirred with equalized glass rods for five seconds each time. Immediately after this performance of the reaction, the test is drawn up into a capillary. The resulting color of fluid in the capillary* is com-

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, May 1, 1941.

From the Dermatologic Department of the Beth David Hospital. Service of Dr. Eugene T. Bernstein.

* A complete set with all utensils required for this test is obtainable at the Standard Scientific Supply Corp., New York City.

Case 2.—G. R., aged 19, is a slovenly youth with dirty skin. He has diffuse dermatitis on his hands and feet and in the groins. There is a strong fetor from the feet.

Noninfected Areas:

	pH		pH
Forehead	6.0	Hands	
Cheeks	5.8	Dorsal	5.9
Breast	5.8	Volar	5.9
Back	6.0	Feet	
Forearms	6.5	Dorsal	6.0
		Plantar	6.3
		Toes	6.9-7.1

Inflamed Areas:

	pH		pH
Distal Forearms	6.5	Groins	6.8
Fingertips	6.5	Toes	
		Dorsal	6.3

Case 3.—G. Ch., a boy aged 6, has a slight diffuse redness and inflammation on both feet, preponderantly in the spaces between the toes. He also has flat feet and fetor. His toes are closely pressed together, particularly the third and fourth ones.

	pH		pH
Forehead	4.0	Groin	5.0
Breast	5.0	Lower legs	
Axillae	6.0	Dorsal	4.0
Hands		Flexor	4.0
Dorsal	5.0	Feet	
Volar	5.5	Dorsal	4.0
		Plantar	6.0

Affected Areas:

	pH
Toes (between— on both feet)	
1st-2nd	7.0
2nd-3rd	6.5
3rd-4th	9.5

Areas Not Visibly Affected:

	pH
Toes (between 4th-5th)	9.0

Case 4.—A. K., a lawyer aged 41, habitually carries a heavy brief case. He has a circumscript parakeratotic dermatitis in the center of both volae manus, a slight erythema on the dorsum of both feet, a symmetric scaly inflammation between the third and fourth and fourth and fifth toes, and a localized dyshidrosis (plus epidermophytosis between some toes).

	pH		pH
Forehead	4.2	Feet	
Breast	5.8	Dorsal (ery- thema)	5.9
Forearms	4.8	Toes (epidermo- phytosis—be- tween)	
Hands (unaffected)		1st-2nd	7.0
Dorsal	5.9	2nd-3rd	6.5
Volar (close to affected area)	6.4	3rd-4th	7.6
Hands (affected—cen- ter of vola manus)	7.5	4th-5th	6.4
Axillae	7.0		

Evidently, dyshidrosis is characterized (and defined) by a marked lack of acidity.

One might raise the objection that the figures as well as the clinical aspect resemble eczema so much that a separation of the conditions is not justified. We must, however, consider that the increase in pH of dyshidrotic persons may be present persistently without

the interference of any dermatitis. A large part of the cases displays the characteristic disagreeable fetor due to the decomposition of sweat and the maceration of keratin, often associated with opaque hydration, desquamation, or reactive tylosis. If dermatitis is superimposed, it appears with the well-known blisters or with the characteristic red and soft plaques forming superficial lamellae, preponderantly localized on the volar aspects and in the intertriginous spaces of hands and feet. The pH is increased particularly in these spaces often giving frankly alkaline values, as a rule, considerably higher than in true eczema. Naturally, it remains a matter of subjective classification whether or not one assumes the dyshidrotic condition under eczema, too, but we consider a separation as indicated, because differentiation from eczema (and from the fungous diseases) is possible when considering the origin, the acidometric findings, and the clinical picture.

We enumerate once more the different possibilities that may cause dyshidrosis:

1. Low acidity of sweat from constitutional reasons—idiopathic or primary dyshidrosis (Case 1).

2. Secondary decomposition due to external influences. The most common causes of this shift toward the alkaline direction are dust or neglect of cleanliness (Case 2).

3. Decomposition with the consecutive lack of acidity due to insufficient evaporation: (a) from reason of anatomy, as between toes of certain individuals, in persons with flat feet, etc. (Case 3); (b) mechanically, by external covering or pressure, as when habitually carrying loads (Case 4), trusses, or prostheses.

Marchionini's conception of the nature of "bromidrosis" would make it come under (3a), but we disagree with his presumption that an increased perspiration, hyperhidrosis, is important for the development of this condition. It is obvious that the possibilities (2) and (3) occur more readily in persons with primary dyshidrosis (1) than in normals. But whether these changes appear in combination or single, whether they are associated with hypersecretion of sweat or not, they always represent one well-characterized condition that can be verified by pH determination.

According to Marchionini's experiments, the decomposing influence of some staphylococci—*Bacillus graveolens*, *Bacillus foetidus*, etc.—plays probably an important part for the increase in pH in dyshidrosis, particularly in conditions (2) and (3).

Dyshidrosis provides a disposition to fun-

Our findings in *eczema* agree with those reported before by Levin and Silvers.³ We note a moderate increase of pH on acute eruptions, a more marked one on subacute and chronic affections, and an outspoken one on the base of such fissures as often occur in chronic infiltrations. The inflammatory exudate plays a role in this reduction of acidity.

In our 16 *eczema* cases, which all have shown similar results, we found that the normal acidity is reduced not only on the affected areas but also on the seemingly unaffected surrounding, and even on far distant, parts. The deviation from the normal is lessened in sites distant from the affected areas. These results raised the question as to whether or not the increase in pH of the "normal" areas is a distant effect of the *eczema* or the consequence of an unavoidable lack of cleanliness or whether it precedes the affection for some reason, thus creating a disposition for the affection. All three possibilities have to be considered. The pH change is most marked in the advance stages of fresh eruptions even when the general status improves. The figures do not return to normal until some time after the disappearance of the visible manifestations of the disease. This observation is in accordance with the histochemical experience that a previously *eczematous* tissue may remain alkaline for a rather long time (three weeks) after the process has cleared up clinically (Gans¹³).

In 2 cases we had an opportunity to observe the skin pH of *eczema* patients under the influence of alkali—in 1 case, after a bath with sodium bicarbonate; in the other case, repeatedly after washing with water and *sapo medicatus*. The pH of the seemingly normal skin in the former case went up (to 8.5 on the lower legs) and did not return to the original values (6.5) until twenty-four hours after the bath. In the latter case the pH increased (to 7.2 on the dorsum of the hands) and did not return to "normal" (4.5) until ten hours after washing. These findings indicate a particular lack of fatty acids (see above) in *eczema*. We thus supplement Hansen's findings that in *eczema* positive patch test reactions with soap are rather "an expression for the reduction of the buffer value of the skin."

In *hyperhidrotic* conditions we find just what one would expect: The reaction, except the one in the axilla, is acid (3.2–5.5), somewhat, but does not excessively deviate from the normal average toward the acid side. On inflamed areas these figures are of the same order, thus suggesting that the

dermatosis is due to an excess of sweat. The abnormality is obviously not qualitative but is a quantitative one only. In 2 cases of retention of abundantly excreted sweat with a consecutive formation of vesicles (*miliaria crystallina*), the liquid contents have shown the same figures as the surrounding skin. The pH figures obtained in those vesicles are not excessively low, i.e., not lower than if there would have been no efflorescences at all. Our findings agree with those of Marchionini, who also had such an acid reaction in the vesicles of this type.

The classic condition due to *hyperhidrosis* is the formation of grouped vesicles as described by T. Fox¹⁴ (*dyshidrosis*). But *hyperhidrosis* does by no means lead regularly to inflammatory changes; nor are such changes, if they appear, bound to be vesicular and to be localized on the hands or feet. They may be micropapulous and may involve any area without demarcation. Thus, they may not differ from *eczema* except in the lack of the increase in pH.

The other one of the two most frequent conditions which may resemble a dermatosis merely due to *hyperhidrosis* is *dyshidrotic inflammation*. *Dyshidrosis* like *hyperhidrosis* is not necessarily conducive to inflammation. The fundamental difference between *hyperhidrosis* and *dyshidrosis* is to be seen in the merely quantitative nature of the former, and the qualitative abnormality present in the latter. *Dyshidrosis* can be associated with an increased excretion of sweat, but this is not the rule. These differentiations are justified by our results. All of the 12 cases of our group show remarkably high pH figures. These are found in some persons all over the body; in others, only locally, frequently on the feet, on the hands and feet, between the toes, etc. Four examples follow to illustrate the phenomenon.

Case Reports

Case 1.—G. H. A., a man aged 37, has no hypersecretion of sweat but does have *dyshidrosis* as indicated by the figures below. He has a tendency to acquire dermatitis, particularly on the hands and feet.

	pH		pH
Forehead	6.0	Feet	
Cheeks	6.1	Dorsal	5.5
Chin	5.9	Plantar	7.2
Breast	6.2	Toes	
Abdomen	6.5	1st–2nd	7.0
Axillae	8.0	2nd–3rd	7.2
Forearms	6.0	3rd–4th	7.2
Hands		4th–5th	7.5
Dorsal	6.3		
Volar	6.5		

Normal Areas:

	pH		pH
Forehead	5.0	Forearms	5.4
Face	5.0	Volar	
Breast	5.3		

Affected Areas:

	pH		pH
Skull	5.0	Breast	4.0
Face	5.0	Elbows	3.8

Case 8.—Y. B., a man aged 59, has had psoriasis for three months.

Normal Areas:

	pH		pH
Forehead	5.4	Thighs	6.1
Breast	5.3	Dorsal	
		Knees	5.0
Forearms		Dorsal	
Dorsal	5.3		
Hands			
Dorsal	5.1		

Affected Areas (Thick Scales):

	pH		pH
Breast	5.8	Thighs	6.4
Forearms		Dorsal	
Dorsal	6.3	Knees	6.2
Hands		Dorsal	
Dorsal	5.1		

Possibly the increased pH on the plaques of the second type is explained by the lack of a normally perspiring epithelium. The excessive para- and hyperkeratosis might have concealed the physiologic acid formation, as well as other changes in pH, in the deeper layers of psoriatic plaques.

Conditions with deficiency of eccrine sweat secretion have proved to be associated with a lack of skin acidity. Thus, the normally acidifying factor has been found missing in myxedema and in atrophic conditions, such as in senile atrophy. Accordingly, pH values have been found in the following 2 cases:

Case Reports

Case 9.—I. H., a woman aged 60, has had myxedema for one year.

	pH	pH (Nine and One-Half Hours After a Bath with Soap)
Forehead	6.2	6.5
Forearms		
Dorsal	6.3	6.9
Flexor	6.3	6.9
Hands		
Dorsal	6.3	6.9
Volar	6.3	7.0
Breast	6.3	6.5
Back	6.3	8.0
Abdomen	6.3	6.5
Axillae	6.5	7.0

Case 10.—G. H., a man aged 68, has had atrophica senilis.

	pH		pH
Forehead	5.8	Hands	6.1
Nose	6.2	Dorsal	
Cheeks	5.8	Volar	

In the case of myxedema, again the deficiency in fatty acids finds its expression in the fact that the figures have not returned to

normal nine and one-half hours after the use of soap.

Summary

I. (a) A convenient method of testing the acidity on the skin is described, using a universal indicator and capillaries.

(b) Additional evidence is given that the acidity on the normal skin is increased during hot days, that the skin is alkalinized by washing with soap, and that the reduced tendency to soap dermatitis in summer can be explained by the increase in (free) perspiration.

II. (a) In eczema the pH in the affected region is moderately higher than on the normal skin of the same individual. This change becomes manifest not only on the affected places themselves but also, to a less degree, on the normal surrounding region and on further distant areas. This change remains for some time after an apparent cure.

(b) Hyperhidrosis shows pH values that are either normal or on the acid side. These persist on hyperhidrotic, inflammatory areas.

(c) Dyshidrosis is characterized by a lack of acidity. This lack can be either (1) primary, idiopathic and generalized (most marked in intertriginous places, as in the spaces between the toes); or (2) secondary, caused by external factors, as uncleanness, dust, etc.; or (3) localized on places with reduced evaporation due to anatomic peculiarities; or (4) circumscribed, due to mechanical factors from outside.

(d) In intertriginous mycoses the figures are similar to those in eczema. A presence of fungi may be indicated by the finding of an "inner" area of lower pH within a surrounding zone of mere dyshidrosis which has a higher pH.

(e) The normal acidity is reduced when formation of compact scales, atrophy, or other degenerative alterations prevent the skin from imbibition with sweat; for example, myxedema and senile atrophy show low figures all over the body.

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gous infection. Growth of fungi is favored by the lack of fungicidal acids (Peck, *et al.*^{8b}), as well as by a secondary increase of moisture, i.e., hydration of the keratin. It is, therefore, easily understood why ringworm infections are found with preference in intertriginous spaces, the axillae, the groins, between the toes, etc., and why dyshidrosis increases the susceptibility for these infections.

There is, however, restriction of fungous growth on the alkaline side, too. Marchionini found the pH on mycotic efflorescences near to the neutral point in contrast to both the alkaline figures in dyshidrotic dermatitis and to the acidity found in vesicles due to pure hypersecretion of sweat.

Although our own material does not yet allow definite conclusions, we can state that on the plaques of 10 cases of various primary mycoses (8 cases of epidermophytoses, 1 of which was associated with vesicular epidermophytid on hands and feet, and 2 cases of trichophytoses) pH was found to range between 6.3 and 7.5. These figures confirm Marchionini's⁵ and Levin's and Silvers' findings³ and to a certain extent (see below) Marchionini's suppositions. The figures show a deviation from those of the corresponding normal skin toward the alkaline. But their rather wide range causes difficulties in a differential diagnostic evaluation, and eczema, as well as dyshidrosis, can give similar figures. One peculiarity, however, characterizes the presence of fungi. It has been seen in 4 out of our 10 mycotic cases, all of which have been epidermophytoses, 1 localized on the hands and 3 in between the toes. Two examples follow.

Case Reports

Case 5.—Dr. H. S. T., a man aged 42, has dyshidrosis and epidermophytosis.

Normal Skin:

	pH
Hands and Finger	
Volar	7.3
Dorsal	7.0

Affection, Mainly in Interdigital Spaces: pH 6.3

Case 6.—J. I., a man aged 24, has dyshidrosis and epidermophytosis.

	pH		pH
Feet (unaffected areas)		Toes (affected areas—between)	
Dorsal	8.0	3rd—4th	6.5
Plantar	8.0	4th—5th	7.0
Toes (unaffected areas—between)			
1st—2nd	7.8		
2nd—3rd	8.5		

On the affected areas we see more acid figures than in the normal areas, i.e., noninflamed

surrounding regions. There is, therefore, a possibility of a differentiation if inflamed plaques show a lower pH, mostly near the neutral point, within a dyshidrotic area that has a high pH. According to the experiments of Peck, *et al.*^{8b} we may presume that this phenomenon is due to the ability of fungi to produce their own pH optimum.

An exception among the mycoses seems to exist in pityriasis versicolor, for in 2 cases we have obtained repeatedly acid figures not differing from the pH of the normal surrounding region (breast: in 1 case, 5.3; in the other case, 4.5). *Microsporon furfur* is obviously less susceptible to (the fungicide) acids than other fungi. Thus, the localization of pityriasis versicolor on the freely perspiring surfaces may be explained. In 1 case of pityriasis rosea we did not find any marked pH deviation on the lesions.

A review of the pH variations in conditions that may present equal or similar clinical features allows the following conclusions. The pH compared with the figures on the normal skin of the same individual is: (1) moderately increased in eczema, (2) unchanged or reduced in hyperhidrosis, (3) strongly increased in dyshidrosis, (4) moderately or remarkably increased in mycosis—a rate characteristic for fungous infection results only if the areas show a lower pH than dyshidrotic surroundings. It is evident that this differentiation will be of importance for diagnosis. In order to establish the practical value of the pH test in differential diagnosis, however, a more extended experience is needed. The particular value for insurance cases will be discussed elsewhere.

The few cases of psoriasis tested have shown divergent findings. In 4 patients the figures on the plaques have been the same or more acid than on the normal skin. These cases differ clinically from the other 2 by the lack of excessive desquamation, partly due to prior treatment, even though it had been discontinued some time before the performance of the test. An increased acidity is in agreement with the findings of Gans¹³ and others who proved, histochemically, a considerable acidity within psoriatic lesions. On the thick scales of the other 2 cases, the pH has surpassed that of the unaffected surrounding region. We give an example of each of these different states in psoriasis:

Case Reports

Case 7.—Y. P., a man aged 41, has had psoriasis for twenty-three years.

Therapeutics

CONFERENCES ON THERAPY

THESE are stenographic reports, slightly edited, of conferences by the members of the Departments of Pharmacology and of Medicine of Cornell University Medical College and the New York Hospital, with collaboration of other departments and institutions. The questions and discussions involve participation by members of the staff of the college and hospital, students, and visitors. The next report will appear in the April 1 issue and will concern "Treatment of Pulmonary Tuberculosis from the Standpoint of the General Practitioner."

Treatment of Some Intestinal Infestations

DR. WILSON G. SMILLIE: The subject of the conference today is the treatment of the common parasitic infections of the intestinal tract. This will include not only treatment of the intestinal worms but also of amebic dysentery.

The discussion will be opened by Dr. Mackie, who will consider the clinical significance of the helminthic infestations.

Helminthic Infestations

DR. THOMAS T. MACKIE: I shall not attempt to discuss the use of the anthelmintic drugs but shall refer briefly to the indications for therapy presented by the various helminthic parasites.

The worm infections of man may be divided into two principal groups: the flatworms or cestodes and the roundworms or nematodes.

Of the flatworms there is only one that is really pathogenic for man—the pork-tapeworm, *Taenia solium*. Fortunately, it is rare in the United States. This parasite is dangerous to man because under certain circumstances man may become the intermediate host and harbor, in consequence, the larval form of the worm, the *Cysticercus cellulosae*. The adult tapeworm inhabiting the intestinal tract does not of itself produce disease. Under conditions of reverse peristalsis, mature proglottides or ova may be regurgitated into the stomach, and the action of the digestive juices liberate the contained embryos. These penetrate the mucosa of the stomach or the upper part of the small intestine, enter the blood stream, and are carried to various organs, particularly the brain, where they localize and undergo atypical development. The resulting cyst, the *C. cellulosae*, produces the pathologic picture of a slowly expanding tumor to which the clinical designation cysticercosis is given.

The normal intermediate host of the pork-tapeworm is the pig. Man becomes infected by the ingestion of undercooked pork. Fortunately, this parasite is rare, but the grave sequelae attendant on man's accidental function as an intermediate host render important the recognition and treatment of *T. solium* infestation.

The common tapeworm of man is the *Taenia saginata* or beef-tapeworm. The human cannot function as an intermediate host for this parasite and, consequently, harbors only the adult worm, which is acquired by ingestion of raw or too rare infected beef. Apart from symptoms resulting from the mechanical action in the intestine, particularly when more than one parasite is present, the *T. saginata* does not produce disease in the host. The indications for treatment, therefore, are not imperative.

The fish-tapeworm, *Diphyllobothrium latum*, has an interesting life cycle and medical history. In addition to man, the list of definitive hosts includes a number of fish-eating mammals. It is endemic in Northern Europe and is not uncommon in the northwestern part of the central United States. The ova excreted in the stool of the definitive host release the contained embryo in fresh water. They then parasitize a water insect, cyclops, within which they undergo partial development. Certain fresh water fish ingest the cyclops, the larval worms undergo further development in the musculature of the fish, and man becomes infected by eating the raw or poorly cooked meat of the fish. The adult worm then develops in the intestinal tract of man.

Historically, the fish-tapeworm is of some interest since, prior to the elaboration of the mechanism of pernicious anemia, infestation by this parasite was believed to be a cause of macrocytic anemia. This concept has been

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Discussion

Dr. Herman Sharlit, *New York City*—This report carrying on the recorded interest of Hermann and coworkers in the "mass" character

of the chemistry on the skin surface is corroborative of most of the work already recorded in this field. However, the technic of the use of an universal indicator recoverable after application to the skin in capillary tubes for reading is ingenious and simple.

Unquestionably, the readings are most influenced by the imperceptible perspiration present at the site of testing, though definitely affected by sebaceous matter and protein detritus. There is yet to be established a meaningful application of studies such as these in clinical dermatology.

However, more and more correlations such as are presented in this report may eventually lead to clinically usable data. At any rate, the simplicity of their technic should serve to encourage others to similar interests.

WINTER DRIVING

The National Safety Council's Committee lists nine specific winter traffic problems and makes the following definite suggestions to traffic authorities and drivers on how to offset these added hazards of winter driving.

1. Reduced speeds and the use of tire chains when roads are slippery will help keep traffic delays and accidents at a minimum, particularly on secondary roads. Chains reduce the distance required to stop after brakes are applied on snow or ice by 40 to 50 per cent, as compared with bare tires.
2. Street and highway departments should improve secondary roads to facilitate snow plowing. Shoulders may need widening. Sharp turns, dips and other hazardous spots should be eliminated if possible.
3. New points of accident concentration or traffic congestion should receive effective snow and ice removal or treatment.

4. Drivers should check weather and road conditions before starting trips and postpone or interrupt trips when heavy snowstorms or fogs occur.
5. Reduce speeds at night. Use proper headlight beam—lower beam in snow storms and in fog, unless vehicle is equipped with fog lights.
6. A traffic safety educational appeal should be made to drivers in every community, warning them of the greater skill required for safe driving in winter.
7. Owners should have their vehicles inspected periodically for safe brakes, windshield wipers, lights, tires, etc. In snowstorms and fog, light beams aimed too high are reflected and blind the driver.
8. Commercial vehicle operators should allow more time for regular routes than during the summer.

PSYCHIATRISTS ORGANIZE TO TREAT WAR FEAR IN CHILDREN

A group of psychiatrists in New York City, with temporary headquarters at the Payne Whitney Clinic of New York Hospital, has formed a committee to prevent and treat mental disorders in children affected by air raids or other war upsets. The name—The New York Society for Child Psychiatry—has been tentatively adopted.

Dr. Lauretta Bender, senior psychiatrist at Bellevue Hospital, is the chairman. Another member of the organizing committee is Dr. J. Louise Despert, research associate in psychiatry at Cornell University Medical College, who explained the proposed work of the group.

At present there is no provision for specialized scientific handling of the problems of panic among children in case of air raids or sudden evacuation. The psychiatrists will offer their services to the Red Cross, the civilian defense authorities, city health and education departments and to other agencies that would be caring for children in emergencies. They will also offer instruction in how to prevent panic among children to air-raid wardens, nurses, teachers, and others. Another part of the organization's volunteer work would be with the emergency medical units. The program also calls for an increase in psychiatric research among children.

that hexylresorcinol is the drug of choice. Its great advantage is its safety. The chief limitation to its widespread use is its high cost. Oil of chenopodium, or its active principle ascaridol, is the most effective agent against ascaris, but the margin of safety is small. We have recently been reminded of this fact by newspaper reports of the death of a child given four times the usual therapeutic dose of chenopodium. Toxicity can be quite considerably reduced by administering chenopodium in castor oil. Carbon tetrachloride is probably the most effective agent for hookworm, but as we have said, it is a dangerous drug. Tetrachlorethylene, in adequate dosage, is probably as effective, or nearly as effective, as carbon tetrachloride against hookworm and is less toxic. The importance of iron administration in the treatment of hookworm was also discussed. The removal of the worms will not cure the anemia of hookworm unless large amounts of iron are made available. In the treatment of pinworm infestation, which has been considered one of the most difficult of the intestinal worms to eradicate, not only must a vermifuge be employed but also strict attention must be paid to general hygiene.

In what way should we now modify these statements of about three years ago?

In the first place, during the past few years progress has been made in the therapy of oxyuris or pinworm infestation. Heretofore, it has been found difficult to cure this infection by the usual methods of treatment which are based on a single dose of the anthelmintic. Frequently, repeated doses of the vermifuges available heretofore cannot be given with safety. The reasons for the failure of the single-dose treatment of pinworm infection have been clarified by the recent studies of Nolan and Reardon on the distribution of the ova of this parasite in household dust in homes where the family as a whole is infested. They demonstrated that this may be an air-borne infection. For instance, viable pinworm ova were recovered from nearly all dust samples obtained from every room in the house and from all levels—from top moldings of doorways and from ceiling lights—to which the ova could be transported only by air currents. Since living embryos were hatched from a considerable proportion of the ova recovered, it seems certain that pinworm infection can be acquired by inhalation of such dust. This might explain the persistence of pinworm infection in some adults who pay great attention to doctor's orders

and to personal cleanliness and in whom reinfection by the usually recognized means seems unlikely.

The likelihood of reinfection by inhalation of ova is an indication for a method of treatment extending over a long enough period of time to insure the death of all dust-borne ova. This apparently will take place during the course of a few days.

The repeated administration of gentian violet seems to satisfy these requirements. It has proved to be the most successful method of treatment of pinworm infestation yet devised. It was shown by Wright and Brady, and more recently by D'Antoni and Sawitz, that this method will cure about 90 per cent of these cases. Gentian violet is given orally in enteric-coated tablets. Several schemes of dosage have been employed—namely, 1 grain three times a day by mouth for eight days, followed by a seven-day rest period and then a similar course for eight days, making a total period of twenty-one days; or 1 grain three times daily for four five-day courses with a three-day rest period between each, making a total period of treatment of twenty-nine days; or $\frac{1}{2}$ grain three times a day continually for thirty-five days; or 1 grain three times daily for ten consecutive days. All of these courses have yielded about the same percentage of cures. A satisfactory plan is to administer $\frac{1}{2}$ grain three times a day for a couple of weeks, or a little longer if the patient will tolerate it, or to give 1 grain three times a day for a ten-day period provided toxic effects do not result. If toxic effects appear, the dose may be reduced or omitted for a day or two and then treatment resumed.

Gentian violet causes symptoms of gastrointestinal irritation. Quite frequently, it causes nausea, vomiting, or diarrhea. In most of the cases this does not seem to interfere much with the treatment, and serious toxic effects have not been noted. However, the drug has not been given to individuals with heavy ascaris infestation or with cardiac, renal, or hepatic disease, so we do not know how toxic it might be to such patients.

Since our last conference one of the significant advances in connection with anthelmintics is the clear-cut demonstration in animals that a specific acquired immunity to nematode infections may develop. Cort and Otto have recently reported that dogs subjected to repeated infections with small numbers of hookworms were not made ill by subsequent test inoculations with enormous numbers of

disproved, and it is now known that the effects of the fish-tapeworm upon man are limited to the mechanical effects in the intestinal tract. Various investigators have deliberately infected themselves with the *diphyllobothrium* and harbored the parasite for several years without untoward effects.

The second group, the roundworms, are more important from the standpoint of pathogenicity. Of these, the *Ascaris lumbricoides* is one of the commonest. Infestation is acquired by the ingestion of food or water contaminated by human excreta and containing mature ova. This parasite inhabits the small intestine and in the presence of heavy infestation, especially in children, may produce intestinal obstruction. The ascarides, likewise, may migrate into the common bile duct, the stomach, and even up the esophagus into the nose or paranasal sinuses. Probably all of you have seen the adults of this species. It is obvious from their size that their presence in considerable numbers may cause mechanical effects. This is their sole mode of action.

More important is the hookworm. It is unquestionably related to much physical and sociologic backwardness in many parts of the world and its effects have been notorious in certain parts of our southern states.

Under suitable conditions of soil and climate, the ova contained within human feces release an embryo which, after a period of free existence, develops the forms infective for man. These penetrate exposed skin and are carried by the blood stream to the lungs, whence they reach the small intestine via the trachea and esophagus. Here, they reach maturity, attach themselves to the intestinal mucosa, which they lacerate with cutting blades in the pharynx; and live literally at the expense of the host's blood. Heavy infestation by hookworm produces severe anemia due to chronic blood loss and causes a variety of gastrointestinal symptoms that are the reflection of mechanical irritation.

The *Trichinella spiralis* should likewise be mentioned because the incidence of the disease it causes in man, trichinosis, is increasing. Pathologic examinations of human diaphragms have shown that the general incidence is about 10 to 15 per cent of the sampling of the population. The pig is the important intermediate host, and man acquires the infection by eating underdone pork. It is important to understand that meat inspection cannot insure that meat is free from the larval infective forms. Infected meat,

however, is rendered safe for human consumption by refrigeration at low temperatures for a sufficient period of time and, likewise, by proper cooking. When infected pork is eaten, the larvae contained within the meat are released in the host's intestinal tract, burrow into the mucosa of the small intestine, and develop to maturity. Fertilization of the females occurs, and for a period of some two or three weeks the gravid females release living embryos which enter the blood stream and are transported throughout the body, localizing permanently in striated muscle.

The clinical picture that parallels these stages of invasion is a varied one. During the stage of invasion of the intestinal mucosa and the stage of propagation there is apt to be diarrhea and abdominal pain. During the period of migration through the blood stream there may be a severe skin reaction with scarlatiniform rash. This is not particularly common but is striking when present. The electrocardiogram may show transitory abnormalities. The larvae finally lodge in striated muscle where they become encysted. This last stage is accompanied by muscle pain and tenderness, which may be troublesome. However, no permanent disability results.

Pinworm infestation may be accompanied by pruritus ani due to irritation of the perianal skin which is produced by the migrating females that pass out of the anal canal for oviposition. In young children and infants heavy infections by this parasite may produce appendicular colic with many of the symptoms and signs of acute appendicitis.

DR. SMILLIE: Some pharmacologic aspects of the therapy of the helminths will be discussed by Dr. Travell.

DR. JANET TRAVELL: May I take a few minutes to review what was said at our conference on this subject about three years ago?¹

In considering the drugs used for the expulsion of intestinal worms, it was agreed that for tapeworms oleoresin of aspidium was the drug of choice. Hexylresorcinol and tetrachlorethylene are also useful but much less effective. Carbon tetrachloride is the most effective agent for flatworms, but its use in even the ordinary therapeutic dose is attended by the risk of serious poisoning and death. The likelihood of poisoning by carbon tetrachloride, however, can be greatly reduced by attention to certain precautions.

For the roundworms—except the whipworm and, of course, trichinella—it was agreed

¹ J.A.M.A. 113: 410 (July 29) 1939.

the efficiency of the anthelmintic by removing any worms that may have been only temporarily depressed by the vermifuge and which may subsequently recover, or to reduce the toxicity of the anthelmintic for the host. This last seems to be important. For instance, castor oil greatly reduces the toxicity of chenopodium. Similarly, castor oil reduces the toxicity of thymol, hexylresorcinol, and aspidium. This is supported by experimental evidence, although contrary statements appear in the literature.

Should the cathartic be given simultaneously with, or some hours after, the vermifuge? Usually, an interval of an hour or more is allowed to elapse between their administration, the theory being that the anthelmintic must be allowed time to act on the worms. Hall, however, has shown in dogs that chenopodium is as effective when castor oil or another purgative is given simultaneously or hours later and that santonin when given together with calomel is as effective as when it is followed hours later by the purgative. Since the main object of giving the purgative is to reduce toxicity, it would seem that this may be accomplished best by giving these two agents simultaneously.

DR. SMILLIE: In opening the discussion, I shall confine my remarks first to the questions Dr. Travell has raised.

Chenopodium is much less toxic if mixed with castor oil, but it is also less effective. We found this to be true in our dog and hog experiments, and in the worm count tests in humans we also found that mixing the two substances greatly lowered the effectiveness of the chenopodium. However, oil of chenopodium may be extremely toxic. If, for example, bile is added to oil of chenopodium and the two substances are given in capsules to a dog, death will result in a short space of time because the drug is absorbed so rapidly. Thus, the advantage to be gained by mixing castor oil with chenopodium is that rapid absorption of the drug is avoided, since the castor oil prevents rapid action on the chenopodium by the bile. This advantage applies especially to children. Severe intoxication with oil of chenopodium is most likely to occur in young children because they absorb the drug more rapidly than do adults.

Oil of chenopodium is a neurotoxic substance. The first symptoms of poisoning are tingling in the fingers and toes and then in the whole body. There is intense headache, projectile vomiting, prostration, and then convulsions. The convulsions are purposive

in type. In the dog they simulate running movements. Unconsciousness follows in five or six hours. Convulsions may be prolonged for twenty-four to forty-eight hours, and death will occur after many hours of agony.

The toxicity of carbon tetrachloride is due to the fact that it affects the liver directly. Small doses may produce a fatal termination. The average therapeutic dose of carbon tetrachloride is 3 cc. I have seen an individual die who received only 1 cc. of the drug. It is especially toxic in persons who have lately taken large amounts of alcohol. The cases of intoxication which we saw in the South and in Brazil were in individuals who had taken large amounts of alcohol just previous to the administration of the drug. The symptoms of poisoning appear in forty-eight hours or less and are accompanied by high fever and muscular pain and, shortly thereafter, by severe pain over the liver. The urine is suppressed and often contains large amounts of blood. The picture is that of acute central necrosis of the liver, which may be rapidly fatal.

Oxyuriasis is a family infection. If one finds infection in 1 individual, one should not treat that person only but examine all the members of the family. Most of them, if not all of them, will be infected.

You are familiar with Hall's newly devised method for the diagnosis of oxyuriasis. It consists simply of a small glass tube over which is folded a piece of cellophane the size of a cover glass. This is held in place with a rubber band. The whole is placed in a test tube. It is a small and convenient piece of equipment. The cellophane is rubbed carefully about the anal folds and picks up the ova to a surprisingly accurate degree. The test tube with its contents is then sent to the laboratory. It may be sent by mail, and a delay of several days is of no consequence. On reaching the laboratory, the rubber band that holds the cellophane in place is folded back, with a small pair of forceps the cellophane is placed on a glass slide, and when water is added it flattens out like a cover glass. A direct examination is then made with satisfactory results.

When treating families with oxyuriasis it is necessary to go into the general hygiene of the whole family in great detail. The children must be watched in relation to such things as short fingernails, and every attempt made to keep them from putting their unwashed fingers to their mouths because, of course, reinfection occurs largely from scratch-

larvae, up to 200,000, whereas practically all the litter mate controls not previously immunized were killed by the test infection. At autopsy, up to 30,000 worms were present in the intestine of the controls and only a few worms, 50 to 200, were contained in the intestine of the immunized animals that were sacrificed. This seems to be a conclusive demonstration.

The immunity to hookworm induced in the dog by repeated small infections is not absolute, since a few worms from the immunizing infections remain in the intestine and, if these are removed by chemotherapy, a few more worms develop when the animals are exposed to reinfection.

In the dog a number of factors may modify the phenomenon of immunity to hookworm. Age is one factor. Age resistance has been recognized for many years. A generally deficient diet—that is, a diet deficient in vitamins and proteins—or anemia may completely prevent the development of immunity. Moreover, a deficient diet may cause the loss of a previously acquired immunity. When the diet is made adequate again there is a rapid return of the immunity for the second or third time, as shown by the spontaneous loss of worms acquired while the animals were on the deficient diet. Thus, nutritional deficiency or anemia may seriously impair the mechanisms for the development and retention of immunity to hookworm infections.

The immunity of the host to nematode infections is general and not local. Cort and Otto have shown that dogs immunized by repeated oral inoculation with hookworm are refractory to test infections given subcutaneously and vice versa. Furthermore, the work of Taliaferro and Sarles indicates that the specific immunity acquired by rats to a nematode similar to the hookworm is largely dependent on humoral antibodies such as precipitins. These antibodies are formed chiefly in response to the secretions and excretions of the worms. Precipitates are formed around the worms in the tissues and in the intestinal tract of the host, immobilizing the worms and sometimes killing them. Otto has also shown that when the larvae of the canine hookworm are placed in the blood serum of immunized dogs precipitates appear around the mouths and excretory organs, whereas no such precipitates appear when the larvae are placed in the serum of nonimmunized dogs. Furthermore, larvae exposed to immune serum tend to lose their infectivity.

In human helminth infestations, the exist-

ence of specific immune substances in the blood remains to be demonstrated. However, we have no reason to believe that the host-parasite reactions in man differ fundamentally from those observed in the dog. If this is so, dietary deficiency and other debilitating factors, by interfering with the immune defense mechanism as in the case of the dog, would account for the occasional fatality or severe case of hookworm disease in a population that is pretty uniformly exposed to hookworm and harbors hookworms in the intestine almost continually. In this case measures to improve the nutritional status of the population may be more important in the control of nematode infections than is chemotherapy.

Next, I want to make some remarks on the subject of the use of cathartics in conjunction with vermifuges. There seems to be some confusion as to when and why cathartics are indicated, and I should like to raise certain questions for consideration.

First, has the purgative any anthelmintic action? Although an anthelmintic action has been claimed for castor oil, none has been demonstrated. Hall has shown that magnesium sulfate and castor oil are almost entirely ineffective as vermifuges.

Has the anthelmintic any effect on gastrointestinal motility? Oil of chenopodium has been reported as being constipating, and for that reason purgation may be indicated in the case of this vermifuge. On the other hand, this reason would not apply to certain other anthelmintics, such as carbon tetrachloride and areca nut, which themselves have a mild purgative action.

Why should a purgative be given prior to the vermifuge? Why is this procedure followed in the case of some vermifuges and not in the case of others? For instance, vigorous purgation is usually carried out preceding the administration of aspidium but is not recommended in the case of hexylresorcinol. That seems to be largely a matter of tradition. Theoretically, preliminary purgation should increase the anthelmintic effect by avoiding dilution of the drug by fecal material and insuring more complete contact with the worms. However, I do not know of any experimental evidence that shows that the use of a cathartic prior to a vermifuge increases its effectiveness.

The purpose of giving a cathartic after the vermifuge is said to be to avoid toxic reactions of the host to the so-called "endotoxins" of the dead worms in the intestine, to increase

DR. GOLD: Are we agreed that that is the most effective and least toxic?

DR. TRAVELL: Hexylresorcinol is certainly the safest and is quite effective.

DR. SMILLIE: It is not so effective as the other drugs, but the toxicity is so low it can be used to great advantage. A single administration removes about 80 per cent of the ascaris. *Chenopodium* removes 90 to 95 per cent.

VISITOR: I saw a statement by Faust that carbon tetrachloride is the most effective in the treatment of roundworms.

DR. SMILLIE: It is effective in roundworm treatment, but there are cases of severe intoxication by carbon tetrachloride.

DR. GOLD: I take it that we are not agreed on the answer to my question.

DR. MACKIE: I think the greatest difficulty with carbon tetrachloride is that there is so little difference between the toxic dose and the effective dose that it is quite possible to kill if great care is not used. This is true for *chenopodium* also.

DR. TRAVELL: The recent work of Best and his collaborators at Toronto gives promise of a means of protection against the disastrous toxic action of carbon tetrachloride on the liver. By the addition of large amounts of choline to the diet it has been found possible in rats to prevent almost completely the fatty degeneration of the liver commonly seen after this vermifuge. Calcium is also known to have an antidotal action in carbon tetrachloride poisoning, but the mechanism of protection by choline differs fundamentally from that afforded by calcium. Calcium antagonizes the symptoms of poisoning, thus permitting survival, but it does not prevent the pathologic process in the liver. Fortunately, if the poisoning is survived, the fatty degeneration of the hepatic lobules is apparently reversible. Choline, on the other hand, has a prophylactic value, at least in animal experiments.

STUDENT: Is tetrachlorethylene safer than carbon tetrachloride?

DR. TRAVELL: It seems to be. No deaths and no serious toxic effects on the liver after tetrachlorethylene have as yet been reported. However, Sandground recently described 2 cases of coma lasting several hours which followed shortly after the usual oral therapeutic dose of about 5 cc. of tetrachlorethylene. Two similar cases had previously been reported. All 4 patients recovered. This effect is in line with the well-known narcotic action of both tetrachlorethylene and carbon

tetrachloride, which is similar to that of chloroform. We probably have not yet had the full story of the toxicity of tetrachlorethylene.

Amebic Dysentery

DR. SMILLIE: We will take up next the treatment of amebiasis, which will be discussed by Dr. Mackie.

DR. MACKIE: I want to call your attention very forcibly to two misconceptions about amebiasis. The term amebic dysentery is ill advised, since dysentery is an uncommon manifestation of this infection. In the second place, the reference in the older literature to chronic treatment-fast infections is incorrect. The infection can be eliminated by proper choice and proper administration of the drugs that are available for therapy.

Perhaps it would be better before discussing details of treatment to state the problem. It is this: We are dealing with an infection of the colon, particularly the cecum. The amebae are present in the intestinal contents, on the surface of the mucosa, and likewise within the tissues of the mucosa and the submucosa. To effect protozoologic cure it is necessary simultaneously to destroy the amebae in each of these situations.

The antiamebic drugs fall into several different classes. The first comprises the pentavalent arsenicals—carbarsone, treparsol, and stovarsol or acetarsone. Treparsol and stovarsol are relatively efficient amebicides and have been highly recommended in the past. However, they are not an infrequent cause of arsenic poisoning. Carbarsone, on the other hand, most nearly approaches the ideal antiamebic drug. Its index of toxicity is low. It is active against the amebae in all these areas referred to, but it is not 100 per cent effective.

The hydroxyquinoline derivatives comprise the second group of which there are several preparations marketed under different trade names, including chiniofon, vioform, anayodin, and quinoxyl. These are not dissimilar chemically from the original German preparation, yatren. These compounds are effective against amebae in the intestinal contents and on the surface of the mucous membrane. Absorption is negligible and, consequently, they are ineffective against the amebae present in the tissues of the host. When used alone these preparations give only a low percentage of cures.

The third group includes the alkaloids of

ing around the itching portion of the rectum. It is necessary to pay particular attention to the sterilization of linen and underclothing, and the clothing that cannot be boiled or scalded should be ironed with a hot iron.

The prolonged treatment for oxyuriasis may seem to you to be entirely unnecessary. It is necessary because of the peculiar life cycle of this parasite. The fact that immature worms and mature males live in the upper part of the intestine and only mature females migrate to the lower part of the intestine makes it difficult to eliminate this parasite. Continuous treatment over a considerable period of time must be followed in order to be successful.

Dr. John Watt, a parasitologist working in my department, has recently done some interesting work on hookworm of rats, a parasite which is in many ways similar to the hookworm of dogs and human beings. He finds that immunity to rat hookworm infection may be transferred passively, and he has produced immunity in the younger rats by giving them serum from one of the older rats which has been hyperimmunized. In one stage of its life cycle the hookworm larva passes through the lungs, and in the immune rats the larvae are held there in a stage of retarded development; they may remain there for a considerable period of time. If an animal is put on a low nutritional basis, it may lose its immunity, and the larvae that were retarded now go on to complete development in the intestine of the rat.

Dr. Travell discussed the issue of nutrition versus chemotherapy in the control of hookworm disease. You will remember that Castle and Rhoads in their work in Puerto Rico suggested that all that one needed to do was to give plenty of iron to the patient with hookworm disease and, in many instances, the patient would regain normal health without the elimination of the worms by a vermifuge. Recent work has shown clearly that if one gives plenty of iron to these patients they do improve, even though one does not treat them at all for their hookworms. However, the relief is only temporary. It is obvious that one must first get rid of the parasite that is continually drawing blood from the patient. Nutritional treatment is supplementary, with the addition of iron, of course.

The disadvantage of the plan of administering the purgative with the vermifuge is that the former detracts from the full effectiveness of the vermifuge. This was shown in extensive experiments in South America; the purgative

was given at a measured interval before or after the vermifuge. The results showed that in hookworm disease a preliminary purgative is not necessary at all. It is quite necessary in the treatment of flatworms. The best time to give the purgative in the treatment of hookworm disease is one hour after the administration of the last dose of the vermifuge. This technic combines the least danger of toxicity with the greatest degree of effectiveness.

One roundworm was not mentioned which is of considerable interest because it causes creeping eruption. This infestation is quite common in the sandy coastal plain of the southern states. It is *Ancylostoma braziliense*, a hookworm of dogs. The normal life cycle of this worm is in the dog, but the larvae will penetrate the skin of human beings. When it does so, it does not seem to know what to do, so in its distress it simply burrows around under the skin instead of going through the usual life cycle. The worst case of creeping eruption that I ever saw occurred in a plumber who went under a house to do some plumbing work. The dogs were accustomed to defecate under the house and the larvae were there in the sandy soil. The plumber's entire back was a solid mass of creeping eruption. Treatment is relatively simple once the diagnosis is made. One freezes the skin in the area of the advancing worm. The difficulty is that one may freeze in one place because it seems that the worm is going to be there today, whereas the worm has really turned back or gone another way.

The subject is now open for discussion.

DR. HARRY GOLD: Is there any proof of immunity to any of these worms in humans?

DR. SMILLIE: No experiments have been done which have given proof of immunity. Is that right, Dr. Travell?

DR. TRAVELL: I do not know of any.

DR. SMILLIE: We think an analogy may be drawn from the results of the animal experiments.

DR. MACKIE: I think there is some demonstration of immunity by skin tests. Sensitization occurs, but there has been no quantitative estimation of the type that has been done in dogs.

DR. GOLD: Of the ten or eleven drugs that are used for treatment of roundworms, is there one that you would say is the safest and most effective, or are these two qualities not found in one and the same drug?

DR. MACKIE: It is hexylresorcinol.

and then without warning he may develop hepatitis or abscess of the liver. I have seen such an instance in an individual who apparently carried an unrecognized amebic infection for seventeen years without ever having dysentery. At the end of that period cholecystectomy was performed under mistaken diagnosis, and a few weeks later the condition was proved to be a large amebic abscess of the liver. Furthermore, there are numbers of less dramatic illustrations of deleterious effect upon the health of the infected individual. For these reasons, as well as for the possibility of infecting others, I feel strongly that every infected person should be treated. Furthermore, treatment is not hazardous provided the drugs are properly chosen and properly used.

DR. SMILLIE: These infections are not so rare as we think. In last year's class of medical students we had 1 case of ascaris, 1 case of hookworm infection, and several cases of oxyuriasis.

I am sorry that we must bring this interesting discussion to a close.

Summary

DR. TRAVELL: In this conference on parasitocidal agents, we considered the kinds of intestinal worms one commonly encounters, their life history, and their clinical significance. It was emphasized that the beef- and fish-tapeworms, apart from symptoms resulting from a mechanical action in the gastrointestinal tract, do not cause disease in man, whereas the pork-tapeworm is capable of doing great harm due to the formation of larval cysts in certain tissues. In the case of the roundworms, the migratory ascaris may produce serious symptoms by mechanical obstruction of the intestine, appendix, bile duct, and so forth. The chief effect of the hookworm is anemia resulting from the blood-sucking activities of the worm and chronic blood loss. Infestation by the *T. spiralis*, which like the pork-tapeworm is contracted by eating underdone infected pork, may be a serious disease

with varied symptomatology but, if recovery occurs, no permanent disability results. The pinworm causes symptoms due to local irritation around the anus or to invasion of the appendix. A hookworm of the dog may invade the skin in man, causing creeping eruption.

The methods of eradication of intestinal helminths were outlined briefly, as presented in detail at our previous therapy conference on this subject about three years ago. Hexylresorcinol is still the safest vermifuge. Tetrachlorethylene also appears to be safe, although its administration may rarely be attended by transient narcosis.

Among the important recent advances is the demonstration that the ova of the pinworm are dust-borne, a fact that helps explain why this parasite infests whole families and is particularly difficult to eradicate. Gentian violet is now being used advantageously for the treatment of pinworm, since it can be given in repeated doses over a long enough period to insure cure of all members of the family simultaneously and to permit the ova-laden dust to become sterile. A course of $\frac{1}{2}$ to 1 grain daily by mouth for ten to twenty days cures at least 90 per cent of the cases and produces only minor toxic symptoms, such as nausea, vomiting, and diarrhea.

In the treatment of amebiasis, it is important to remember that the organisms exist in two forms, cystic and motile. These are reached by different drugs because they are located in different places. Emetine attacks the amebae in the tissues; the hydroxyquinoline derivatives kill the free forms within the lumen of the gut, and carbarsone is active against the amebae in all locations. When either of these is used alone, a low percentage of cures is obtained. The disease is curable, however, at any stage, provided these drugs are properly used in combination and provided secondary bacterial infection does not present a serious problem. Emetine is, however, a dangerous drug, and its use should be attended by certain precautions.

COMPETITION

A high-powered orator we know was told off by one of the war charities to get a convention of undertakers to come across with a little something. Just before the meeting was called to order, the chairman took our friend aside and said, "Now, don't expect too much from the boys. Business has been very bad lately."

Our friend said politely that he was sorry to hear it, and added that he had always thought that particular business maintained a constant level. "Oh, no," the other man sighed. "Thousands of people who should be dead are walking around today—that sulfanilamide, you know."

—*The New Yorker*.

ippecac, the most important of which is emetine. There are several modifications of emetine for oral use, such as emetine bismuth iodide, all of which are irritating to the gastrointestinal tract and will not be considered here. Emetine hydrochloride for parenteral administration is the most important. It is a completely efficient amebicide for those amebae actually within the tissues of the host. It has no effect against amebae on the surface of the mucosa or within the intestinal contents. When used alone emetine will eliminate the infection from not more than 15 per cent of the cases.

The last group of drugs includes the compounds of bismuth. These are more of historic than actual therapeutic interest. Their index of amebicidal activity is low, and they do not properly belong among the modern antiamebic preparations.

Ambulatory cases may often be satisfactorily treated by carbarsone according to the following plan: A dose of 250 mg. is given twice daily for a period of ten days, and the course repeated once or twice with intervening rest periods of ten to fourteen days. However, infections may persist even after repeated courses of carbarsone and, if these fail, intensive treatment with emetine and one of the hydroxyquinoline derivatives should be employed, preferably under hospital conditions.

The acutely ill patient should be treated in a hospital or under competent nursing supervision at home. The patient receiving emetine should be in bed. It is a general protoplasmic poison, cumulative in action and slowly excreted. In overdosage it produces myocardial degeneration and cardiac death. For these reasons emetine should be given on the basis of body weight. The individual dose should not exceed 1 mg. per kilogram of body weight, and the total dosage in any one course should not exceed 10 mg. per kilogram. The course should not be repeated for at least two weeks. It is best given as the hydrochloride, one dose daily deeply intramuscularly. It should not be given intravenously. When given subcutaneously it gives rise to painful nodules at the site of injection which persist for considerable periods. Throughout the period of emetine administration, usually eight to ten days, one of the hydroxyquinoline derivatives such as anayodin should be given, 1 Gm. in enteric-coated pills three times daily before meals. These occasionally cause a moderately severe diarrhea which can, in almost all instances,

be controlled by complete bed rest and an appropriate dosage of paregoric. This combined or intensive method of treatment is completely effective.

DR. TRAVELL: I should like to ask Dr. Mackie if amebiasis is entirely curable by the combined method of treatment in all stages of the disease or only when treated in its early stages.

DR. MACKIE: At any stage it is curable if the drugs are used in the proper way and if the infection is not too much complicated by secondary bacterial invaders.

DR. TRAVELL: Which is more effective for eradication of the amebae within the lumen of the intestine, carbarsone or one of the hydroxyquinoline compounds?

DR. MACKIE: That is difficult to answer. Both will promptly make it impossible to find recognizable amebae in the stools of a patient with acute dysentery.

DR. TRAVELL: Owing to its high arsenic content, is carbarsone contraindicated in liver involvement such as amebic hepatitis or abscess?

DR. MACKIE: It is certainly inadvisable to use any of the arsenicals in the presence of liver disease, and it is not necessary to consider them under such conditions. Emetine hydrochloride is completely effective both in amebic hepatitis and amebic abscess of the liver. In the latter case it may be necessary to aspirate the contents of the abscess cavity.

DR. CHARLES H. WHEELER: One gets the impression that in the majority of the drugs used in the treatment of helminthic infestations, as well as of the amebic infections, the use of these drugs is attended with considerable risk. I wonder how worthwhile is it to treat some of these conditions when the treatment itself apparently carries such a risk, or does the risk exist only when the drug is used incautiously or improperly?

DR. MACKIE: The answer depends in part upon the clinical condition of the patient and in part upon the nature of the infection. For example, in the case of infestation by the tapeworm *T. saginata*, there is seldom a compelling indication for therapy. Likewise one not infrequently sees individuals with mild hookworm infestations. If they are normally residents of the North and if they have no anemia, treatment is unnecessary.

With amebiasis, however, it is a different matter. An infected individual may, over a period of many years, present little in the way of symptoms or signs that is noteworthy,

him already and I dread to think of the effect on him of the air-raid siren which is being installed not far from our home, and of worse noises which may follow.

Most babies are frightened by *sudden noise*—some more than others—but they can get used to a surprising amount of racket of many kinds and learn to ignore it. This takes time. Fortunately these young babies have no idea of the meaning of these military noises. Children in London have learned to draw the covers over their ears and many of them have slept through bombings quite peacefully. Unless they sense our own feelings of threat through our tense nerves and muscles, we can probably help the babies to accept the new kinds of racket in much the same way that we help them to live through thunderstorms or to sleep through the noise of elevated trains. Stay close to your child during unusual noises; let him feel your protecting body comfort. Playing a kind of game about it may help to relax both parent and child. Imitating an airplane or making other noises and translating into action the things of which he is scared may prove helpful.

If you happen to live where bomb shelters may have to be used, desert island games and special picnic parties held in the shelters from time to time may help to give these places an everyday feeling. This will make them less threatening to little children in case of real emergency. But don't be disturbed if some anxiety lingers on for a while. Your reassuring presence will do more than anything else to quiet him and eventually he is likely to get used to all kinds of noises.

Caution or Fear

How can parents avoid frightening their children and yet get them to take the necessary precautions for safety in case of air-raids? My children walk long distances to school every day and ought to know about signals and what to do. I am afraid that giving them information will only frighten them more.

It is not what or how much you tell your children that frightens them, but how you tell it. Let your manner be sensible and matter-of-fact. Of course you should give your children complete instructions, as these come from official sources. Then explain to them the reasons behind these instructions. Make what you have to say simple and brief. Don't go into a dozen or so remote possibilities. Don't repeat yourself, or beg your children to listen so as to be sure to understand what you are saying. They get you the first time. After you have told them, go about your business and let them go about theirs. Your composure and ability to attend to all the familiar routines will calm them more than any number of sermons on being calm. Fear in children comes not nearly so much from knowing the facts about possible dangers and how to meet them, as from a "hush hush" atmosphere, or from feeling that their own parents are jittery and that there is something that is being hidden from them.

Before They Understand

How much can my four-year-old understand

about the war? And how can I keep him from hearing all sorts of frightening things from his older brother and his brother's friends and even from some grown-ups? Every once in a while when he sees me looking troubled he says, "Haven't they caught Hitler yet?"

It is true that little children cannot understand what the war is about. They have no clear idea whether the fighting is near or far away or what it is like or what it all means. They are likely to catch only a mood of terror. Therefore "business as usual" and all the reassuring details and pleasures of their own small lives are the best thing for them. Young children will be better off if they don't hear constant war-talk. But neither should we try to avoid the subject altogether. Perhaps you can put it up to your seven-year-old that he, and his friends too, have a real "war job" right now in seeing that the younger ones don't get scared. That will mean watching their step with radio and conversations and seeing that others do too.

Yet we cannot completely protect even the young child from knowing that there is a war and that there is danger. In addition to thoughtless and idle talk there are likely also to be grim realities, and every family must take precautions. We can't pretend the war isn't here, and we will have to meet our children's questions whenever they come and at whatever age. The attitude which seems to say "don't bother your little head about such things" always defeats its purpose. Not only does this attitude give the child a feeling that he is not being told about something threatening, which makes it twice as frightening, but it also cuts him off from the comfort of being in on the whole thing with his parents. Even a small child who is puzzled and anxious may get a great relief from occasional direct and open talk about the war.

Just Being Together Helps

Isn't there a danger in our overdoing the stoical act at this time? Why pretend that nothing unusual is happening? When times are special aren't people's needs special too?

Of course you are right. Going about grimly pretending that life moves on in the same old way may not be the best thing for either parents or children. There is a kind of bravado which some people assume at this time which is emotionally unhealthy not only for themselves but also for the people who look to them for understanding and support. While going about our business quietly, let us remember, too, that we need both to find extra strength and to give it. Just being together is one enormous strengthener: let's not get so busy, even with war work, that we overlook the emotional needs of our own families. Most of us now feel the need for more evenings at home—we instinctively crave companionship with those who are closest. Even when we do and say commonplace things we get lots of comfort from just feeling that, come what may, we'll at least see it through together.

If you can't be with your family as much as you'd like, a thoughtful phone call now and then may help to bring that necessary sense that you're thinking of each other anyway. If you're going to be out of reach at times, have a standing ar-

Children in Wartime Parents' Questions

The following is reprinted from a pamphlet recently issued by the Child Study Association of America. The Child Study Association is a pioneer in the field of family guidance. Its staff conducts lecture-discussion groups in child development and parent-child relationships for parents, as well as leadership training and special courses for teachers, public health nurses and other professional workers. The Association maintains a Family Guidance and Consultation Service where, under the guidance of experienced counselors, parents and young people may come for advice and increased understanding of the problems they are called upon to meet. The Association also publishes a quarterly magazine, Child Study, and numerous books, booklists, and pamphlets. These services are available on a membership basis, or by special individual arrangement.*

The pamphlet reprinted below is the first of a series of "morale" on the home front" to be issued from the recently reorganized F Consultation Service, now under the direction of Dr. Bernard Glueck.—Editor

WHEN war strikes, parents' thoughts turn at once to their children. No matter how wide or unselfish our sympathies, it is perfectly natural that the first pang should be for the welfare of our own. If we have a son of fighting age there is little we can do but sit tight and give him our backing whatever happens. But if our children are younger there are measures to consider, not for their safety alone but also for their emotional well-being.

The attitude of parents as expressed daily in home life counts immediately and counts deeply. There are things we have already learned from England about children in wartime, and the most important is that so far as their morale is concerned, it is the parents who determine the mood. In the last analysis it is the tone in our millions of homes that will determine the tone of the nation. This means that parents in these perilous times feel a deep and special responsibility.

Whatever morale means, it means something more than a "front." It means more than grim silence or a pretense of courage. For families, it means a frank but balanced recognition of a common danger, and a feeling of confidence that, come what may, its members will stand by one another.

We have long known how foolish it is to try to deceive children. If a surgical operation has to be faced, telling a child that "it won't hurt a bit" is not the best way to help him through it. On the contrary, we tell him—briefly, to be sure—that it probably will hurt some, but that his mother will be right beside him. We know too that it is not our words that convince, but rather the child's feeling that his parents have matters under control, that they know just what has to be done and can do it. The same is true even of serious disaster. When death comes to a family and grief seems for a time to overwhelm and destroy everything, the child who finds that his parents do, after all, go on again with life and living, nearly always finds that he can, too.

If parents are to keep their own balance it is important that their demands on themselves

should not be superhuman. We are anxious—even fearful; and we are likely to be more so. There will be many times when we are tired and will feel and show the strain. We can't be models of absolute self-control, industry, and self-sacrifice. We can, however, comfort ourselves with the knowledge that such occasional breakdowns or signs of discouragement do no real damage. If the underlying loyalty is there the whole family will be sure to sense it and will find strength in it.

This was sharply brought out in the replies of many children evacuated from London during the period of severest air-raids, when questioned about their homesickness. What they most remembered was "my older brother teasing me," "my father growling about who took his newspaper." Evidently it is such familiar commonplace that spell home to us all and when we are most tried these are the things that stay with us.

British experiences show us, too, that among children the worst emotional upsets are likely to appear in the pre-school and in the teen ages. This bears out what we have always known—that even in normal times it is the very early and adolescent years that are the periods of childhood's greatest inner conflict. For children under seven the inability to grasp this large and threatening situation—to understand it or do anything about it—only increases the feeling of frustration and insecurity that go with being little. The recent rise in delinquency in Britain among children in the younger adolescent group also probably comes from frustrations. Young people always have a great need to do things, and when there is so much that needs to be done, ways should and must be found for making these older children feel that they are useful members of the larger group working to win the war.

Many questions will be asked by parents, not all of which can be answered now. New and unpredictable situations will arise. This booklet is issued in answer to some of the questions that parents have already asked of the Child Study Association and other agencies, in the hope of giving some help in the anxieties of parents and children in the present crisis.

Babies Need Not Be Frightened

My two-year-old is easily frightened by loud noises. How can I help him in these days? Sirens and low-flying planes have terrified

*Approximately 14,000 copies of this pamphlet have already been distributed, singly and in quantities. School superintendents have ordered them in lots of 500 to 2,000 to give to parents. Many other organizations and groups have assisted in their distribution.

Price: 5¢ per copy—3¢ per copy in lots of 100 or more. Child Study Association of America, 221 West 57th Street, New York City.

Learning to Obey

The air-raid warden in our apartment house has issued some directions which I question. And I am troubled, too, about some of the emergency regulations in force at my child's school. Must I see that my family obeys these rules when I really doubt their wisdom?

If each one of us attempts to make his own rules, serious confusion and danger to the whole community will inevitably result. In an emergency some official plan, by which everyone is guided, is of utmost importance. If you are not satisfied that the present rules are the best possible, it is your democratic privilege, as well as your obligation, to make suggestions for their improvement to the responsible authorities. But whether or not your suggestions are accepted, it is imperative that you obey and teach your children to obey. Conforming to the regulations is essential for the common safety. Having such regulations for our welfare made by our own representatives is of the essence of democracy. Our way of meeting the emergency is a test of democratic morale.

Most of us have lived in a world which made few demands on us for strict obedience and many of us have brought up our children under a system of discipline in which obedience played a minor role. It takes some readjusting for us to accept authority so unquestioningly now, and to help our children to do the same. This doesn't mean that our way was the wrong way. On the contrary, our kind of discipline is needed to create free people for a free society. But the present situation is a test of our *adaptability*. To no small degree our own readiness and willingness to make this adjustment will determine the ease with which our children do their part.

Mother's Work

How about the morale of mothers right now? If children depend so largely on mothers, what can be done to keep them from feeling useless and therefore discouraged?

The trouble with much of woman's work is that a great part of it—housework—is a lonely business. Now, of all times, we crave companionship with our own kind. Women have always found relief in keeping their hands busy with knitting and sewing and in the knowledge that this work brings comfort to the men who are fighting, or to children who need clothing. There is a particular satisfaction in doing this, or any other work for which they find themselves suited, *in groups*. Through the women's voluntary organizations, the local Red Cross and Civilian Defense offices most of us can find some group work into which our particular abilities—the things we can do best—will fit. New needs will be arising all the time, such as special help in the schools, in the church, through parents' associations, or in the local community.

It cannot be said too often that now is the time of all times when people of all ages need to herd together and to work not only for their fellow men but *with them*.

On Being Afraid

I am a somewhat nervous person even in normal times. Now everybody is telling us parents to keep calm. How can *anybody* be calm under these circumstances? I do my best to *appear* calm, but I am sure that my real feelings get through to my children. What can I do about it?

Don't try to be superhuman. Of course we are all more or less alarmed. Who wouldn't be? No use pretending that there just isn't a thing to worry about. But legitimate fear need not be allowed to become jitters. Let your children know that every normal person has certain dangers to face, and that it's natural to be on guard against them. Nobody really intends that parents should deny either the dangers or the fears. But emphasize the steps that are being taken to avert or to meet these dangers. Of course if you're going to turn pale and stop everything you're doing whenever an airplane passes overhead, you are going to communicate your state of mind to the children. But having acknowledged the realities, your children will be grateful to you for going on with your usual activities and keeping your home as normal as possible. There is something very reassuring and stabilizing in the carrying out of the usual routines.

Women and the Home Front

Is it the duty of every woman to find war or community work outside her home? Is she not serving her country just as faithfully if she attends to her own home, husband and children?

Certainly her own family in nearly every case is a mother's first responsibility. It seems a little foolish for women to rush around looking for war-work which may not yet exist and overlook their children's anxieties or other problems. The young mother with several small children can perhaps do no better than to give them all she has. Even in wartime there is no more important job than seeing that our homes are real havens of peace, warmth, and safety. Yet when we have done our best for our own, there are plenty of women who find that there is still time over, and who today feel as never before the urge to serve not only their own homes but the larger community too. Each woman will have to decide for herself whether she has energies to spare. There are times when a woman is a better mother for doing work outside as well as inside her home, and times when she is not.

Schooling or Service—Which?

What can we say to our children who cannot see the sense of going to school or college right now? Even the boys and girls of high school age are impatient about school and insist that they want to *do something* about the war.

Their feeling is natural. We all want to do something about it and wish we knew what. Yet very many of all ages can make their best contribution by going on with their regular work. Many young people should be encouraged to serve directly. Others of high school or even

rangement with your children as to how they may get in touch with a neighbor or family friend in case of emergency, or even if there is no emergency, when they just feel the need of homelike support.

Whistling to Keep up Your Courage

My boy of ten seems almost angrily indifferent to the war. He is impatient with our conversations and constant listening to news reports. Apparently all the instructions given him at school irritate him. He insists there is no danger and that people who think there is are just silly. How can I make him more aware of the seriousness of what is going on?

Don't be fooled. Whistling to keep up your courage is a well-known device. Maybe for this particular boy it is a necessary kind of refuge—each must find his own way. Probably behind all this belligerent indifference there is more anxiety than appears. Don't try to force a more realistic attitude upon him. He probably knows as well as you do what is going on. Maybe some day you'll find a chance to help him admit to more anxiety than he now shows. His discovery that it isn't "sissy" to admit his fears will be a healthy one.

Children manage their fears by different means, and react to danger in a variety of unpredictable ways. Don't be surprised at anything. The child who seems altogether indifferent may be the very one who will show his concealed anxiety in ways that are apparently unrelated. This is true of children, not only in wartime, but in any situation in which they can't admit their *real feelings*. Our experience with young children teaches us that they find ways of masking their feelings. For example, the unacknowledged jealousy of an older child toward a new baby may show itself in recurrences of bed-wetting, thumb sucking, disobedience, and other misbehavior even while he apparently "loves" the baby. Similarly the child with whom war-anxiety is largely unconscious and who shows only indifference may now take to bullying the younger child—to demanding extra attention from his parents, or to expressing his hidden fears, in many other indirect ways. Such misbehavior, while it lasts, will call for patience and understanding from both father and mother. In time, these children are likely to get their second wind and quiet down.

The Boy Who Is Thrilled with the War

My eleven-year-old son seems delighted at the war. His walls are full of maps; he gets the news eagerly. He and his friends talk constantly about going out and "blasting" Hitler. "Just my luck," he says, "to live where there is no fighting. Boy! Would I love to have an air-raid!" I find it hard to believe he is really so bloodthirsty. Is there anything I ought to do about it?

Remember that there is invariably a thrill at the thought of real danger. It would be less than human not to be excited and stimulated. In many children the love of adventure is very strong and quite natural and is not so "blood-thirsty" as it seems. The sight of the aggressive

primitive male animal, when he happens to be our own son, is likely to shock his mother, though rarely his father. But your son is not abnormal, and the kinds of feeling he is expressing are for very many—both younger and older—certainly natural right now.

Radio Listening—Is It Too Exciting?

What about the radio? Aren't we all overdoing it? Wouldn't it be better for the children *not* to listen so continuously? Along with the terribly exciting and often distressing war news, they are also getting the exciting dramatic programs. It all adds up to a pretty heavy diet of excitement. Yet the children seem to be drawn to it like moths to the flame.

Children are well aware of exciting things happening in the world around them, and radio offers one way for them to take part in these happenings vicariously. One of our greatest problems is to help children feel that they have a share in all this, that they play a part in it. The radio, addressing as it does each listener directly, makes the children part of the great world outside. There *are* limits, of course; and a steady, nonstop stream of continuous radio should be avoided. In fact, the children themselves often turn off the radio when they have had enough. Children and adults too can be appealed to for some moderation in this respect on a basis of common sense and household peace.

It is undesirable, moreover, for children to have too much excitement aroused with too little chance to drain it off in action. Adults must help to provide the antidote by seeing that the children have plenty of active things to do and that other interests are not crowded out entirely.

Playing at War

The boys on our block play nothing but war these days. Their belts fairly bristle with toy guns and makeshift war-planes are constantly zooming through the air. Isn't the world full enough of this sort of thing without the children having to play at it? How can we stop it?

Don't try to stop this kind of war play. Play is the language of children, their way of working out the matters that concern them deeply at the moment. Boys have always played games that gave release to their war-like feelings. Cops and robbers, Indian and cowboy, Lone Ranger, Superman, or war games have much the same root and much the same meaning for the players.

A certain amount of such play is needed by most normal young males at any time. Their need is even greater today when war surges all about them. Girls, too, feel this need now. They have to play out their heightened feelings, just as many of us older people need to talk ours out.

Up to a certain point this is perfectly healthy—a real safety-valve. You will probably find that the excitement dies down somewhat as time goes on. If not, some adult help may be needed to ward finding other, less exciting substitutes, especially athletic games, dramatics, and other more peaceful or "symbolic" expressions of rivalry and struggle.

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college age will, for the present at least, serve their country best by continuing and in some cases intensifying their school work. Parents and teachers can rightfully point out to them how great the need will be for a generation trained and equipped to make a good peace and to rebuild a shattered world. School people have already begun to see that their work cannot go on as if nothing unusual were happening. Studies of many kinds will have to be re-directed so that school work will be more meaningful to youth in a world at war.

Yet we must expect these boys and girls to be restless and to demand some immediate part in the war effort. The best thought of our various youth organizations—Scouts, Y's, Boys' Clubs, Campfire Girls, etc.—should be given to finding ways of directing into useful community work the young people's energies and enthusiasms and capacity for high devotion. And parents and teachers should do their best to encourage the boys and girls to join in such projects.

For the young people in college—especially the boys of military age—the problem may be even more difficult. We can tell them how great will be the country's need for educated men in the days to come. But to many boys its present need for soldiers will seem more urgent. Combining study and military training in the R.O.T.C. will be a satisfactory compromise for many. To others immediate enlistment will seem the only course. Each must make his decision in accordance with his own conscience. For many the choice will be a difficult one. As parents we have not the right to interfere or to burden them further with doubts and reproaches. We have to recognize, too, that for many the opportunity to do war work is a welcome liberation from an otherwise meaningless or disagreeable program.

The Over-Anxious Child

In spite of all my efforts to "keep calm" (I am not a nervous person), my five-year-old daughter has been terrified ever since war was declared. Even before we went in she asked anxiously if every airplane she heard might not drop bombs. Now she has dreams and night terrors that her baby brother has been killed, that the enemy are coming right into the house. I have forbidden all war discussion, news broadcasts, etc., in her presence but it hasn't helped much. I am afraid that this will leave a permanent impression and upset her nerves for life. Is there anything I can do?

All the testimony of the British psychiatrists and others who have worked with children during the war shows that, like adults, children who are emotionally satisfied and generally well-balanced to begin with stand up well under enormous strain and recover even from what we might consider shattering experiences. Your saying that your child was afraid even before the war started raises the possibility that like many children from the age of two to six or seven, she has had some tendency to fears already. Her present state may be *intensified* by knowledge of real dangers, by hearing news bulletins and reports, but it is not *caused* by these things.

When children are continuously afraid of

bombs that *might* come, in terror for the safety of a father who is unlikely to be called, for a baby brother peacefully asleep in his crib, then we must realize that just as children fear giants or wild animals in peacetime, these are not the things which are really frightening them, but are only the symbols with which the real cause has been masked. The real causes are not in the outside world but lie within your child herself. Essentially she is afraid of certain of her own impulses and instincts which she has somehow learned to regard as "bad." She may be afraid, for example, because beneath the surface, she hates the baby, or is jealous of her father, or feels that some of her sex thoughts or acts are "forbidden." Bottling these things up tight within herself—so tight that she no longer knows they are there—she cannot shake off the feeling that punishment must surely follow; she sees it lurking all about her and uses "the war" or other current experiences merely to give it body or justification. Far too briefly and simply stated, this is the psychology of much of the exaggerated anxiety of those people who are forever dying a thousand deaths.

You may help your child by trying to improve all her relationships to members of the family and to outsiders, by raising her self-esteem in every way possible, and by allowing her angry feelings and her natural sex curiosity some expression. Children like these, if their parents will try to be especially reassuring and loving, usually grow out of this phase, and as their general morale improves their "war fears" tend to diminish. Meanwhile, such a child should not of course be subjected to constant reminders of danger, if we can prevent it. But it is important not to stop with such purely negative measures since the real causes lie elsewhere.

If, in spite of all you can do, the child's fears get worse instead of better, it might be well for you to get advice from professional sources.

Must We Teach Children to Hate?

Until recent events forced us into a horrible dilemma, my husband and I believed and taught our children that hate and war were the most destructive forces on earth. We taught them also to respect and believe in the reasonableness of human beings of all races and nationalities. Now there is an orgy of hate let loose. I believe my older children can keep their balance, but I dread the effect on the little ones. Must even the babies hate?

A few days before war broke out one of our radio news analysts said something like this: "I am going to say what within a week may be considered treasonous. I am going to say that in spite of all that has happened, Japanese are still human beings—Germans are still human beings. If Americans forget this, even though they win the war, they are in danger of losing the peace."

These are wise words, too wise perhaps for children to understand. But if parents believe them they cannot help making their attitude count with their children, even while they wholeheartedly give their full support to this war. Of course there are countless decent Germans and

[Continued on page 458]



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[Continued from page 456]

decent Japanese, and even many millions more who are just helpless and bewildered. But if we have brought up our children to believe that *all* people can be counted on to be just as reasonable, we have certainly deceived them and need to revise our teaching. Even the youngest child can be told that there are certainly dangerous people in the world, and when these get to be heads of government, they kill and rob people to get what they want. If their own citizens don't stop them, the time comes when others must do so. That means war.

Perhaps this is too detached a view for people who have lost and suffered through the evil doings of others; it is only one possible attitude. Each of us will have to find where he stands. Meanwhile, perhaps, the best thing we can do is to help our children to be fair to others of enemy alien descent with whom they come in contact and who are certainly not responsible for this war. If they really love justice they will not tolerate ostracizing the classmate whose parents come from Germany, or ridiculing Japanese children in their community, or stealing fruit from the corner grocer whose name and accent are Italian. Feeling as we do, we must oppose

these things even though in wartime they may be "natural." If we can keep a spirit of justice and kindness alive in this practical sense we probably need not fear permanent injury to our children's characters. If your children are emotionally sound, well-balanced personalities, all the wartime propaganda that they will run across in movies, radio, comics and elsewhere will probably leave them essentially unharmed.

Remember too that there is a real distinction between an unhealthy and destructive type of hatred and the righteous indignation that a normal person feels toward cruelty and injustice. There are some kinds of action that should *not* be tolerated and that we are glad to see our children hotly resent. It is well for them to hate the oppression of weaker nations by stronger ones, to hate the suppressors of freedom, to hate race and religious persecutions. When they see in such persons as Hitler and Mussolini the very embodiment of cruelty, they can hardly help hating them too—for these are today the flesh and blood symbols of all that is detestable in men, all that stands in the way of decent human living. There are some things worse than war, worse than bloodshed. These are slavery and degradation. Let us not be afraid to say so.

PHYSICIANS NEEDED IN THE PANAMA CANAL ZONE

Physicians are urgently needed at the Panama Canal—one of the nation's most vital defense areas. There is a splendid opportunity here for doctors to assist their country during the present emergency.

The U. S. Civil Service Commission has just announced an examination to secure physicians for these important positions. The entrance salary is \$4,000 a year, and free transportation by boat or plane is furnished from port of embarkation, the salary beginning on the date of departure from the United States. Applications will be accepted by the Commission in Washington, D. C., until further notice. There is no written test.

Applicants must have been graduated from a Class A medical school with a degree of M.D. subsequent to May 1, 1920, and, in addition, must have had at least one year of experience in a hospital since graduation. Graduates from schools that require the completion of the internship before granting the M.D. degree (five-year schools) will be regarded as having met the hospital experience requirement. Applicants

must not have passed their fiftieth birthday; however, because of the arduous duties in the tropical climate, applicants between 25 and 35 years of age are preferred.

Applicants must be in sound physical health; they must be active and capable of arduous work. Although appointees are required to pass a thorough medical examination, the physical requirements are not so high as for the Army or Navy service.

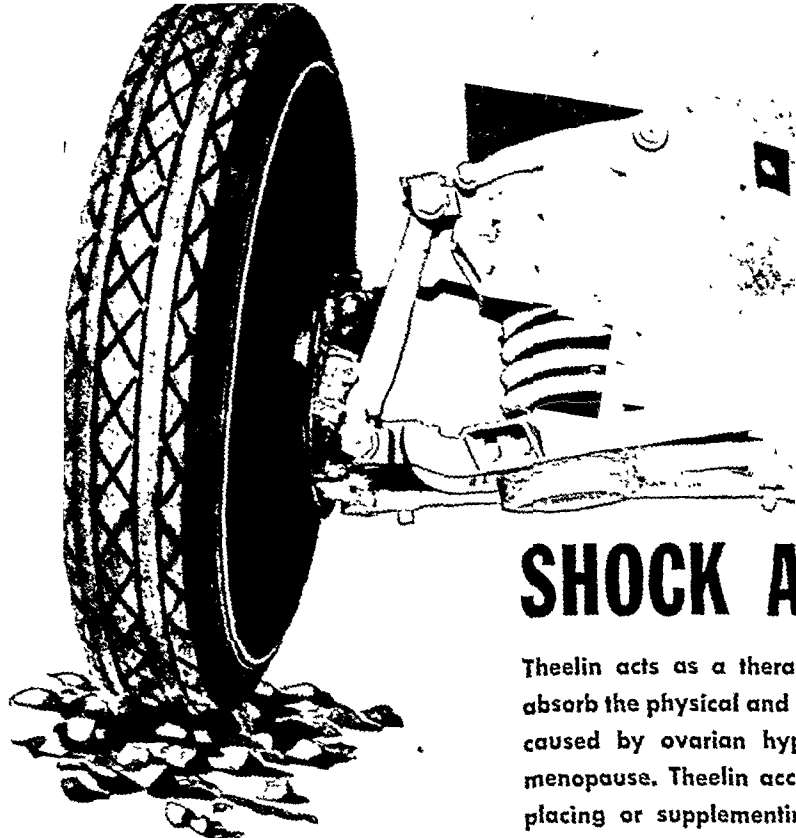
The duties of the position are to serve as district physician in a small government dispensary; have general supervision over all medical and surgical activities in the dispensary; operate a general medical and surgical clinic; examine persons entering the Panama Canal Service; visit patients day or night in their homes and on board ship; and be in charge of business activities of the dispensary.

Further information is given in the announcements that may be obtained, with application forms, at any first- or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C.

JENNY OR JOHNNY? BUT HAVE THEM READY

Thirty thousand birth certificates, or one out of every four of the new birth certificates received last year by the Health Department, lacked the first name of the baby or the middle name, declared Health Commissioner John L. Rice in a recent radio address. He stated that this was due to the fact that the parents didn't make up their minds what to call the baby before the attendant physician sent in the required birth certificate.

"The 30,000 birth certificates that came in last year without the baby's given name," said Dr. Rice, "involved extra clerical and stenographic work for the Health Department. This extra time is needed right now to help out with the certificates for the men and women who want to get into defense work. The fewer birth certificates we have to correct or change, the more certificates we can get out for the adults every day."



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See also

Maternal Welfare

From time to time under this heading articles appear on obstetric subjects which are deemed of importance as aids to improvement of maternal welfare in New York State. The members of the Committee are Charles A. Gordon, M.D., chairman; Alexander T. Martin, M.D.; James K. Quigley, M.D.; and Ferdinand J. Schoeneck, M.D.

Standards for the Care of Pregnancy Complicated by Heart Disease, Part II

THE following article is the second and concluding portion of the Standards as published by the Maternal Welfare Committee of the County of Kings. The first half of the article appeared in the February 15 issue.

Shall the Cardiac Patient Be Advised to Avoid Pregnancy?

Just because a woman has organic heart disease, it is not necessary to advise her to avoid pregnancy or to interrupt an existing pregnancy.

Many women with organic disease of the heart are able to have babies apparently with little or no ill effect, provided the size of the family is not too large. Women with organic disease of the heart will not tolerate, as a rule, more than three pregnancies.

It is the woman with serious disease of the heart who should be advised against becoming pregnant.

What do we mean by serious organic disease of the heart?

First, those who have had an attack of cardiac decompensation should not become pregnant. Once a heart has failed under the ordinary strain and stress of life, that heart usually will not withstand the strain of pregnancy.

Second, women who functionally are in Class 3—that is, those who are not able to carry on the stress and strain of ordinary life without great discomfort—are not good subjects for pregnancy.

Third, gestation in women in Class 4 is dangerous, and such women should be urged not to become pregnant.

Fourth, the anatomic type of cardiac lesion must be considered. Women whose hearts are definitely enlarged withstand pregnancy badly—the larger the heart, the greater is the likelihood of the occurrence of decompensation.

The finding of a long rumbling diastolic murmur at the apex in mitral stenosis is not a favorable sign. This usually denotes a high degree of stenosis of the mitral valve.

Women who have had rheumatic disease of the heart for over fifteen years are usually not good risks, nor are those over 35 years of age.

Young women who develop an attack of acute rheumatic fever or chorea should be advised to avoid pregnancy for at least two years after the subsidence of the attack. An acute attack of chorea or rheumatic fever occurring in a cardiac patient during pregnancy is rare and serious. Interruption of the pregnancy may become necessary.

In the older age group, women with auricular fibrillation should never become pregnant. They usually decompensate in pregnancy.

Care of the Patient During the Prenatal Period

In addition to the usual prenatal care, cardiac patients should be carefully evaluated early in pregnancy by a competent cardiologist who is familiar with the stress and strain of pregnancy and labor. Consultation and supervision by the cardiologist should be continued throughout the pregnancy.

A diagnosis should be made of the anatomic lesion, and the patient should be grouped according to the classification of the New York Heart Association as approved by the American Heart Association.

The obstetrician and cardiologist should consider:

1. Whether the patient can probably be carried to term; the type of delivery to be chosen as it seems best when term is reached.

2. Whether she can probably be carried to viability and be delivered by cesarean, with or without sterilization.

3. Whether her condition is serious enough to warrant immediate interruption of the pregnancy, with or without sterilization.

There is no specific preventive treatment for cardiac disease. Prevention of decompensation is the goal for which we strive in the care of these patients.

For prevention of decompensation the important factors are:

1. Frequent observation and examination for early signs of decompensation.

2. Avoidance of physical efforts that might cause extra strain on the heart.

3. Employment of visiting housekeepers in the home.

4. Avoidance of excessive gain in weight.

5. Prompt digitalization for early signs of congestive cardiac failure.

6. Absolute bed rest in a hospital if decompensation occurs.

If the patient decompensates during pregnancy, she should be vigorously treated. Under no circumstances should the pregnancy be terminated until compensation has been restored or until the patient has recovered as much as is probable. Then, the pregnancy may be terminated. If decompensation continues, operative

[Continued on page 462]

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3. NO SYSTEMIC TOXICITY
4. NO PULMONARY COMPLICATIONS
5. DECONGESTION WITHOUT VASOCONSTRICTION

SPECIFY THE ORIGINAL ARGYROL PACKAGE



[Continued from page 460]

delivery will be of little avail, and it will be wise to let nature take its course.

Care of the Patient During Labor

The labor and delivery should be in a hospital. Cardiac disease is too serious a complication of labor to allow the patient to be delivered at home. It is good policy to hospitalize the patient for observation at least two weeks before the onset of labor.

Delivery by cesarean section is only occasionally indicated. The patient may be ill as a result of the operation, and her convalescence may be complicated. Delivery by cesarean section should be advised in cases when known dystocia is present, when dystocia develops early in labor or when, at the onset of labor, the patient shows symptoms of impending decompensation. In the primipara, and especially in the elderly primipara, cesarean section should be preferred to a long labor. If she should decompensate during pregnancy, a cesarean should be done when compensation has been restored. The anesthetic of choice is local or open drop ether with oxygen.

In general, if the patient has no signs or symptoms of decompensation at the onset of labor and if there is no observed or probable dystocia, delivery will be best accomplished by allowing the patient to go through the first stage of labor under considerable morphine analgesia, with forceps delivery under local anesthesia, or open drop ether-oxygen anesthesia, as soon as the cervix is fully dilated. The cardiac requires a maximum amount of rest and analgesia during labor.

The expulsive efforts of the second stage of labor are harmful to the cardiac patient. Therefore, she should usually be delivered as soon as the cervix is fully dilated.

Care of the Patient During Puerperium

Mental and physical rest are extremely important during the puerperium.

If the patient is decompensated after delivery, proper treatment for that condition should be instituted. She should be kept in bed for a minimum of two weeks and examined by a cardiologist before she is allowed out of bed. She should then, if her condition warrants, be allowed up for only short intervals each day for a period of a week. She must take on her usual duties slowly and avoid exertion, particularly during the first few months after she is ambulatory. Each pregnancy shortens the life expectancy of the cardiac patient.

Except in mild cardiac patients, nursing the baby is to be avoided. The breasts should be dried up as soon as lactation begins and the baby bottle fed.

Visiting nurses and visiting housekeepers will be of great benefit to the cardiac mother after she returns home from the hospital.

Follow-up Care of the Patient

Every cardiac patient should be under regular observation at monthly intervals, or oftener if she requires it, for the first six months after pregnancy. Thereafter, the follow-up may be at more infrequent intervals, but she should never be discharged from medical observation.

She should now be carefully evaluated and advised with regard to the avoidance of future pregnancies or sterilization.

Patients with cardiac murmurs should be thoroughly evaluated early in their pregnancy. If the patient shows evidence of definite cardiac disease, it will be wise to consult with a cardiologist for definite diagnosis and suggestions as to treatment.

The obstetrician should confer frequently with the cardiologist, and the latter should see and examine the patient periodically during pregnancy, labor, and the puerperium. It is only by this dual observation and treatment of pregnancy complicated by cardiac disease that the patient can be carried through her pregnancy, labor, and puerperium in the most careful and successful manner.

AWARD TO BE GIVEN

The American Urological Association offers an annual award, not to exceed \$500, for an essay (or essays) on the result of some specific clinical or laboratory research in urology. The amount of the award is based on the merits of the work presented and, if the Committee on Scientific Research considers none of the offerings worthy, no award will be made. Only residents in urology in recognized hospitals and physicians who have practiced urology for not more than five years may compete.

Essays should be in the hands of the secretary, Dr. Clyde L. Deming, 789 Howard Avenue, New Haven, Connecticut, on or before April 1, 1942.

SECTION ON ANESTHESIOLOGY

The program committee of the Section of Anesthesiology wishes to announce that questions desired brought up for the Round Table discussion to be held at the State meeting April 29, 1942, at the Hotel Waldorf-Astoria be mailed to the secretary of the section: Dr. M. C. Peterson, 303 East 20th Street, New York City.

The topics for discussion are: (1) Inhalation Anesthesia, (2) Regional and Spinal Anesthesia, (3) Inhalation Therapy, and (4) Resuscitation. The members of the Round Table Panel are: Dr. F. A. D. Alexander, Dr. E. J. Delmonico, Dr. M. C. Peterson, Dr. E. A. Rovenstine, and Dr. Paul M. Wood.

Chemotherapy

OF THE PNEUMONIAS

Sulfathiazole exerts a pronounced and rapid bacteriostatic effect upon the most common causative organisms of pneumonia (pneumococci, hemolytic streptococci, staphylococci). It is not necessary to delay treatment of pneumonia until the laboratory report on sputum typing has been received.

In the vast majority of cases Sulfathiazole is administered by mouth; occasionally it is necessary to resort to injection. Only in certain circumstances is specific serum also indicated.

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Postgraduate Medical Education

Programs arranged by the Council Committee on Public Health and Education of the Medical Society of the State of New York will henceforth be published in this section of the JOURNAL. Members of the committee are Oliver W. H. Mitchell, M.D., chairman (428 Greenwood Place, Syracuse); George Baehr, M.D.; and Charles D. Post, M.D.

Joint Program

A joint program has been arranged for *Delaware and Otsego County Medical societies*. The lectures will be held on Friday evenings, at 6:30 P.M., with dinner at the Oneonta Hotel, Oneonta, New York.

March 13.—Relation of the Family Physician to the Cancer Problem.

Frederick S. Wetherell, M.D., associate professor of clinical surgery, Syracuse University College of Medicine, Syracuse.

March 27.—Bursitis, Sprains, Strains.

Willis W. Lasher, M.D., assistant clinical professor of surgery, College of Physicians and Surgeons, Columbia University, New York City.

April 10.—The Treatment of Burns and Hand Infections.

David Goldblatt, M.D., assistant traumatic surgeon, Post-Graduate Medical School, Columbia University.

April 24.—Fractures in General. The Treatment of Common Fractures.

Henry H. Ritter, M.D., professor of clinical surgery, New York Post-Graduate Medical School, Columbia University.

May 8.—Prenatal and Postnatal Care; Care of Newborn; Pelvimetry.

Merton C. Hatch, M.D., instructor in obstetrics, Syracuse University College of Medicine.

May 15.—Toxemias of Pregnancy.

Edward C. Hughes, M.D., professor of clinical obstetrics, Syracuse University College of Medicine.

May 22.—Rheumatic Fever—Rheumatic Heart Disease.

Alexander T. Martin, M.D., clinical professor of pediatrics, New York University College of Medicine, New York City.

The lectures on cancer, obstetrics, and rheumatic fever are given in cooperation with the State Department of Health and the Medical Society of the State of New York.

Traumatic Surgery

A course in traumatic surgery was arranged by Dr. Henry H. Ritter, Reconstruction Unit, New York Post-Graduate Medical School, Columbia University, New York City, for the *Cayuga County Medical Society*. The meeting on March 3 will be held at 4:00 P.M. in the staff rooms of the Auburn City Hospital, Auburn, New York.

The remainder of meetings will be held at 8:30 P.M. in the same place.

March 3.—Surgery of Trauma; Treatment of Burns.

Henry H. Ritter, M.D., professor of clinical surgery, New York Post-Graduate Medical School, Columbia University, New York City.

March 10.—Fractures of Leg and Ankle.

Walter D. Ludlum, Jr., M.D., New York City.

March 17.—Head Injuries.

Carl A. Peterson, M.D., New York City.

March 24.—Hand Infections.

Ernest W. Lampe, M.D., New York City.

March 31.—Fractures of Forearm, Wrist and Hand.

Willis W. Lasher, M.D., assistant clinical professor of surgery, College of Physicians and Surgeons, Columbia University.

April 7.—Fractures of the Femur.

Emmett A. Dooley, M.D., New York City.

April 14.—Treatment of Wounds, Tendons, and Nerves.

David Goldblatt, M.D., assistant traumatic surgeon, Post-Graduate Medical School, Columbia University.

War Medicine and Surgery

Fracture Lecture

A single lecture, arranged for *Onondaga County Medical Society*, is to be held at Syracuse University College of Medicine, Syracuse, New York, on Tuesday, March 3, 1942, at 8:30 P.M.

Fractures in General. Treatment of Common Fractures.

Henry H. Ritter, M.D., professor of clinical surgery, New York Post-Graduate Medical School, Columbia University, New York City.

Neurology Lecture

A single lecture, arranged for *Monroe County Medical Society*, is to be held in the Academy of Medicine Auditorium, Rochester, New York, Tuesday evening, March 17, 1942.

Nervous Conditions Associated with Warfare. Foster Kennedy, M.D., professor of clinical neurology, Cornell University College of Medicine, New York City.

A pat on the back develops character. . . . if administered young enough, often enough, and low enough.
—Canadian Doctor

Question: What is physical culture?
Nurse: "Physical culture is to make a culture of physic."
—Medical Record

Growing Medical

Opinion

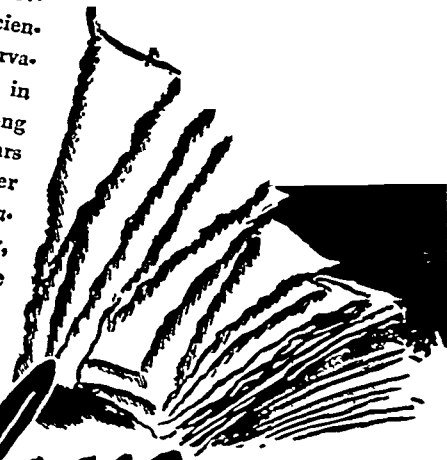
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THE LANCET
Aug. 2, 1941, p. 121

"The tendency is to discover more and more deficiencies in diet. From observations of the work done in various universities along specialized lines, it appears that a clinical case never suffers from a single vitamin or mineral deficiency, but rather from a multiple one."

J. INT'L. COLL. OF SURGEONS,
Oct., 1941, p. 409



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Medical News

County News

Broome County

Dr. Silas D. Molyneaux, chairman of the Preparedness Committee of the county society, reported on "A Unified Plan for Emergency Treatment in Major Disaster" at the February meeting of the society.

Other physicians who took part in the program and their subjects were: Dr. Charles D. Squires, "Emergency Treatment of Open Wounds"; Dr. H. J. King, "Emergency Treatment of Burns"; Dr. C. L. Pope, "Emergency Treatment of Fractures Referable to Spine and Extremities"; Dr. C. B. Henry, "Emergency Treatment of Compound Fractures"; Dr. M. H. Williams, "Emergency Treatment of Chest Injuries"; Dr. J. Worden Kane, "Emergency Treatment of Head Injuries."

Members of the Broome County Dental Society were invited to the meeting.

At the request of the State Society, Dr. E. R. Dickson, county society president, has appointed a subcommittee on the "Hard of Hearing and the Deaf." Members are Dr. Hiram Randall, chairman, Dr. J. D. Bowen, and Dr. Windsor R. Smith.

Cattaraugus County

The county society bestowed a life membership upon Dr. A. W. Smallman, Ellicottville, the oldest practicing physician in the county, at their meeting in the Olean House, Olean, on January 22. Dr. Smallman has been practicing medicine for fifty-four years and is widely known throughout that region.

Cayuga County

See page 464 for postgraduate lectures.

Delaware County

See page 464 for postgraduate lectures.

Erie County

"Stated Meetings [of the society] are yours and your problems should be discussed and decisions made in the Stated Meetings inasmuch as the society does represent the medical profession. This is much better than sitting around in the staff rooms offering criticisms and suggestions, which result in no particular, definite action for your welfare or that of the society. . . .

"Your committees are always willing to help you or to listen to suggestions for the good of its members or the profession as a whole.

"I am firmly convinced that the profession should take the *offensive* instead of the defensive which has been our habit in years gone by . . .

"We must keep the practice of medicine free from politics. We must insist always on free choice of physician by the patient. We must maintain that precious doctor-patient relationship. We must keep the quality of the practice of medicine foremost and not let quantity take its place.

"As regards the faults of the profession—and we have some—it is my conviction that they are all the result of individual selfishness in that we

think of ourselves and our own convenience rather than the profession and the practice of medicine as a whole."—*Nelson Strohm, M.D., retiring president.*

Elsewhere in this issue (page 435) there is an item about the resolution adopted by the society at the January meeting in which the society pledged itself to encourage civilians to walk more. In offering the resolution Dr. Harry C. Guess cited the great use made by Germany of walking tours to build up civilian health. He added that, mentally, walking would be good, for it will give people at least twenty minutes for thought and reflection.

Dr. Harvey P. Hoffman in his inaugural address as president of the society stressed the challenge of the times to the medical profession: "We cannot fail! We must meet these stern facts with action."

Greene County

At the meeting in January Dr. William J. Hoffman, New York City, addressed the society on "Present Day Treatment of Cancer."

The Emergency Medical Committee of the Green County Defense Council, under the direction of Dr. M. H. Atkinson, chairman, is appealing to all citizens of Greene County to present themselves immediately to their family physician for immunization against smallpox and typhoid fever. The committee also feels it advisable to have all children inoculated against diphtheria.

The committee also feels there is a great possibility that if Greene County suddenly becomes the residence of a large number of refugees or evacuees from the metropolitan district there would be a great danger of disease being brought into the county.

The doctors of Greene County have agreed to do this work at a reduced fee in order that every person in the county can receive the benefits of this immunization.

Herkimer County

Dr. Byron G. Shults is the new president of the Herkimer Academy of Medicine succeeding Dr. Howard C. Murray.

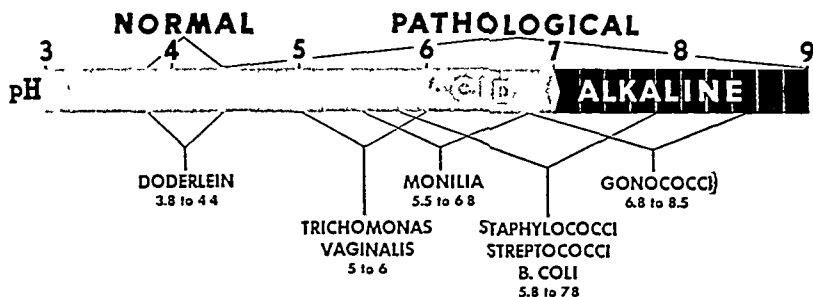
Other officers are vice-president, Dr. James F. Gallo; second vice-president, Dr. D. F. Aloisio; secretary, Dr. Fred C. Devendorf; treasurer, Dr. Harold T. Golden; executive committee, Drs. Shults, Aloisio, James W. Graves, A. L. Fagan, and Murray.

Dr. Nicholas D. Lill, Dolgeville, gave a paper before the county society on February 10 at the Mohawk Valley Country Club in Herkimer. Dinner was served at 6:00 P.M. Clinical reports and presentation of specimens completed the program.

New York County

At a regular meeting of the Metropolitan New York Chapter Association of Military Surgeons

[Continued on page 468]



The pH Factor

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The modern conception of corrective therapy in vaginal leukorrhea insists upon readjustment of the vaginal acidity to normal and consequent re-establishment of the normal bacterial flora.

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[Continued from page 466]

of the United States held on February 12 at the Waldorf-Astoria, New York City, the following officers were elected for two years: president, Rear Admiral James C. Pryor, M.C., U. S. Navy (Retired), re-elected; vice-presidents, Colonel Howard W. Barker, U. S. Veterans Facility, re-elected; Colonel Charles M. Walson, M.C., U. S. Army, Surgeon Second Corps Area; secretary-treasurer, Colonel Samuel Adams Cohen, Med.-Res., U. S. Army.

Oneida County

A series of radio talks, Hints to Health Program, arranged by the Utica Academy of Medicine, has recently been concluded. They were: January 19—Dr. Ward W. Millias, "The Emotions as a Cause of Illness"; January 26—Dr. T. Douglas Kendrick, "Scientific Experiment and Medicine"; February 2—Dr. William F. Coxon, Jr., "Modern Anesthesia"; February 9—Dr. Walter F. Duggan, "The History of Spectacles"; and February 16—Dr. Lynn M. MacConnell, "The Story of Anesthesia."

Onondaga County

At the meeting of the society on February 3 Dr. Louis Gussow talked on "Discussion of Boeck's Sarcoid with Report of a Case." Discussion was opened by Drs. Carlton F. Potter and James G. Derr.

At the same meeting Dr. Eugene Boudreau spoke on "Psychosomatic Medicine; the Contribution of Shock Therapies, including Electro-Shock; Case Reports." Dr. Harry A. Steckel opened the discussion.

The subject, "Recent Advances in the Diagnosis and Treatment of Cancer of the Prostate," was presented to the county society on January 6 by Dr. Leo E. Gibson and discussed by Drs. T. F. Laurie and Robert Brewer. "This presents a new and rather hopeful outlook to patients suffering from inoperable carcinoma of the prostate," says the *Bulletin*. "By performing a bilateral orchidectomy and the administration of stilbestrol, the male hormone, which undoubtedly has a stimulatory effect on such a growth, is presumably eliminated.

"When metastasis occurs, there may be an increase in the serum acid phosphatase. This usually slowly returns to normal after orchidectomy and the administration of stilbestrol. A large proportion of these patients are distinctly benefited as shown by relief of pain, gain in weight, and even a disappearance of bone metastasis. The whole subject is so new and the results are so gratifying that it is too early to predict what it may finally lead to."

Dr. George B. Andrews presented a paper on "Insulin Allergy," which was discussed by Dr. W. A. Groat. The importance of continuing insulin in patients where it is distinctly indicated was stressed, and those who are sensitive to it should be desensitized in order that they may have the benefit of insulin therapy.

See page 464 for postgraduate lecture.

Oswego County

At the regular monthly meeting of the county society, held at the Fortnightly Club in Oswego on February 3, Dr. Frederick Wetherell of the

Syracuse University Medical College addressed the society on burns with special emphasis on treatment of shock caused by injuries of this nature.

"The majority of deaths from burns are caused by shock rather than the injury itself," Dr. Wetherell pointed out. "This may come on immediately or it may appear in later stages of the patient's confinement," he added, explaining the methods of treatment and the value of blood plasma in this type of medical work. According to reports of the American Medical Society, 60 per cent of the casualties at Pearl Harbor were attributed to burns.

Dr. Wetherell's topic was enlarged upon by a demonstration of the Hematocrit, a device for determining the approach and degree of shock in injuries, by Dr. C. K. Elder. The instrument is in use at the Oswego Hospital and is an invaluable aid to prescribing the proper type of treatment for shock, as Dr. Elder illustrated with several case histories.

Otsego County

Rotarians in Oneonta who heard Dr. George W. Mackenzie, Cooperstown, on February 5 are undoubtedly better informed on medical topics than they were prior to that date. Dr. Mackenzie's subject was "What is Next in Medicine?" but rather than prophesy he reviewed what had been happening in the wide field of medicine, pointing out that the time lag between the scientific developments of medicine and their general application to reduce illness is the principal challenge not alone to the medical profession but to the people of the whole world.

Of the "miracle drugs" he says: "This story of the sulfonamides is a fascinating one, first, because it was made possible by the painstaking experiments of the chemists. It is based on the methods of science; it is a fascinating story also because it illuminates a trait of the human mind.

"Several times in the course of development of the sulfonamides an individual had staring him in the face a discovery of great importance but failed to appreciate the significance of what was before him. Third, the story is fascinating because the doctor now actually does sometimes see miracles. Patients who formerly would have been doomed to die now, not infrequently, are rapidly cured and restored to health.

"We may well ask: 'What next in the sulfonamides?' Almost certainly we shall have new sulfonamide drugs. Perhaps some of them will be better than those we have now. Already we know that fully 25,000 people in this country will survive pneumonia each year who formerly would have died.* We may well ask: 'What next in other fields of medicine?'"

See page 464 for postgraduate lectures.

Queens County

The borough president of Queens has proclaimed March 9-16 as Nutrition Week in connection with an educational campaign of the county society to teach consumers what to eat in war time to preserve their health.

The society, with the help of the auxiliary

* See "Competition," page 451.—Editor.
[Continued on page 470]

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1942 ANNUAL MEETING

of the

Medical Society of
the State of
New York

*Waldorf-Astoria
New York City*

April 27, 28, 29, 30

[Continued from page 468]

and the Queens Council for Social Agencies has been at work some time in drawing up a country-wide program of nutrition education.

Nutrition Week will be launched March 9 with a meeting in the Medical Society Building in Forest Hills, at which experts in the field of dietetics will speak. The following day there will be a symposium for professional social service workers so that they in turn can instruct those with whom they come in contact.

A nutrition exhibit also will be set up at the medical building, with a lecture on hand each day to explain the various subjects.

Rensselaer County

At the county medical society meeting, which was held in the Hendrick Hudson Hotel in Troy on February 10, Dr. Charles H. Wheeler, assistant professor of clinical medicine at New York Medical College, spoke on the sulfonamides.

Dr. John O. Sibbald, president of the society, presided and Dr. C. J. Handron introduced the speaker.

Richmond County

The following are the newly elected officers of the county medical society: president, Dr. H. Lynn Halbert, Tompkinsville; vice-president, Dr. D. Vincent Catalano, West Brighton; secretary, Dr. William H. Barlow, St. George; treasurer, Dr. Curtis J. Becker, St. George.—*William H. Barlow, M.D., Secretary.*

Schenectady County

Dr. Judson B. Gilbert of Ellis Hospital addressed the county society on "New Developments in Cancer of the Prostate" on February 3 in the nurse's home auditorium at the hospital.

A business meeting preceded.

Dr. Walter Brown, radiologist of the Ellis Hospital, has left to begin a Fellowship in Internal Medicine at the Mayo Clinic in Rochester, Minnesota. His appointment began January 1, 1942, and is for three years.

Dr. C. E. Mitton has been appointed radiologist of the Ellis Hospital.

Suffolk County

A joint meeting of the Huntington Hospital and the county society was held on January 28. A symposium on hypertension was presented.

The following speakers participated: Dr. H. A. Schroeder, Rockefeller Institute, "Experimental Aspects"; Dr. H. O. Mosenthal, New York Post-Graduate Hospital, "Medical Aspects"; Dr. H. G. Bugbee, St. Luke's Hospital, "Urological Aspects"; Dr. I. P. Sobel, Lenox Hill Hospital, "In Children"; Dr. Carnes Weeks, New York Post-Graduate Hospital, "Neuro-Surgical Treatment."

During January the Huntington Hospital conducted a symposium on cardiovascular diseases including hypertension and the speakers were Dr. Emanuel Libman, Dr. Samuel Silbert, Dr. Benjamin Jablons, and Dr. Saul Samuels, all of New York City.

Dr. Morris R. Keen was chairman of the program committee.

Dr. George M. Lott, director of the Division of Mental Hygiene, Suffolk County Health Department, has an article in the February *News Letter* on "Mental Hygiene in the Present Emergency." After reviewing the experiences as related by an English psychiatrist he concludes with this news of his locality:

The Mental Hygiene Division of the Suffolk County Department of Health is focusing its clinical and educational activities on the formative phases of character development. To this end as much work as possible is being done with parents, teachers, and school children. The early years are a critical period in everyone's health history. The correction of physical and emotional defects at this time enables the child to face school and social competition without handicap and makes for sound health later on. Permitted to stand, many of the trivial disorders of childhood develop into chronic or impaired capacity in adult life.

Westchester County

At the January meeting it was announced during the business session that the entire savings fund of the society is to be invested in Defense Bonds, and the special committee on medical preparedness under the chairmanship of Dr. Erich H. Restin, Mount Vernon, who is also chief of emergency medical service of the County Defense Council, announced that the society has assisted the county and local defense councils in perfecting medical services against all emergencies.

Deaths of New York State Physicians

Name	Age	Medical School	Date of Death	Residence
Irving G. Cameron	—	L. I. C. Hospital	February 1	Brooklyn
Dennis D. Daly	66	Syracuse	February 5	Ellenburg Depot
Justin Herold	80	Bellevue	February 3	Scarsdale
Levi E. Hinshaw	77	Dunham Chicago	January 21	DeRuyter
Samuel W. Lambert	82	P. & S. N. Y.	February 10	Manhattan
John McAllister	90	Albany	February 6	Manhattan
G. Jordan Mehler	40	Univ. & Bell.	February 1	Lynbrook
Christopher J. Patterson	78	P. & S. Ontario	February 1	Hopewell Junction
William Richter	77	N. Y. Univ.	February 2	Manhattan
Ernest S. Steinitz	60	Breslau	February 1	Manhattan

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INDUSTRIAL ACCIDENTS IN N. Y. STATE

The number of industrial accidents by years is a fairly accurate barometer of employment or lack of employment. For example, the total dropped 10 per cent the first year after the crash and at the peak of the depression years had dropped about twenty-five per cent.

From then on there has been a steady increase in the number of industrial accidents until the year 1940 it was again equivalent to the total in 1929.

Fatal accidents, however, in the plants of New York State after a decided drop following the crash, have decided to stay down. For the past eight years fatal accidents have been around 1300 to 1400 as compared to some 2,000 in peak prosperity years.

This may mean that better safety measures are being taken, although the total number of all types of industrial accidents does not indicate such improvement. And while fatal accidents show such a satisfactory reduction, permanent disabilities have continued to increase right through the years of unemployment.

If there is any reason for the lower mortality rate in industrial accidents it can well be that we have had some improvement in medical attention and technique. Even though this may mean that the injured worker has been saved from death only to survive with a permanent disability, still it is an achievement that, next to eliminating the hazard entirely, can be viewed with considerable satisfaction.

OUR TRANSIENT POPULATION DECREASES

In 1940, over 130 million persons entered and left the City of New York on trains and ferries alone. This is the equivalent of one visit by every man, woman and child in the United States. In addition, of course, there were countless more who used motor cars and buses exclusively.

Commuting included in the above figure comprises over 91 million of the total visits and 182,684,185 trips in and out of the city. However, this was almost 14 million less trips than in 1939 which in turn had over 4 million less commuter trips than 1938.

Apparently commuting is on the wane, but what is largely responsible for the steady reduction is not clear. The change in 1940 may be due to a shift in industry because of defense work, but the reduction in 1939 appears a little early for such a cause.

Ferries carrying privately owned vehicles seemed to fare better with a slight increase. In 1940, total traffic on such ferries reached 14,125,941 as compared with 14,029,673 in 1939. However, other privately owned ferries reported a reduction of passengers from 27,812,879 in 1939 to 24,010,536 in 1940.

Persons using the vehicle tunnels and bridges in 1940 were 13,328,803 in the Holland Tunnel; 3,900,000 in the Lincoln Tunnel; 8,455,000 over the George Washington Bridge; 696,000 over the Goethels; 370,000 over the Outer Bridge Crossing; and 638,000 over the Bayonne Bridge.

HARRY F. WANVIG

Authorized Indemnity Representative

of

The Medical Society of the State of New York

70 PINE STREET

NEW YORK CITY

TELEPHONE: DIGBY 4-7117

Hospital News

Hospitals in New York City Are Ready. . .

IF an emergency were to arise at this very moment, 2,000 cases, at least, could be accommodated, according to Dr. Edward Bernecker, of the Department of Hospitals, chief of the Emergency Medical Service, New York City. In a published interview in the current *Modern Hospital* Dr. Bernecker summarizes the defense preparations that are being made by hospitals in the New York City area.

He says that the number 2,000 will be raised to 5,000 and more when all existing facilities are organized and greater coordination of the various defense units has been accomplished.

Emergency medical field units, made up according to the Medical Division Bulletins of the Office of Civilian Defense, are a part of eighty city and voluntary hospitals. These units are directed to predetermined spots near the scene of the disaster for the treatment of minor injuries. Those in charge of these casualty stations must decide which cases should be sent to the hospitals.*

Dr. Bernecker says that one of the biggest problems facing the New York hospitals is the realignment of their staffs owing to the demands of the government upon the medical profession. With interns having only one year of training and with the elimination of residents it is necessary that the attending staffs assume new responsibilities.

Another readjustment that hospitals must make is the elimination of intern service on ambulances.† [This went into effect on all ambulance services of city hospitals in New York City on February 16. Qualified emergency first aiders are replacing the interns. It is expected that private hospitals will inaugurate the change in a few weeks.]

The realignment of duties follows on through nurses and voluntary nursing aids, graduate nurses assuming duties previously performed by doctors and the nursing aids doing some of the work of the nurses. Dr. Bernecker estimates that 1,000 women have been trained for these posts but that the quota calls for approximately 10,000.

Dr. Bernecker concludes with the advice that "Safe and Sane Defense" might be a slogan for every institution, but he does not recommend that hospitals go to extremes in preparing themselves for possible air raids or disaster from sabotage. He points out that while, at present, it is ridiculous to abandon the use of operating rooms on top floors it is equally foolish not to protect all skylights adequately. He added that every hospital should provide for an emergency operating room lower down in the building or on the first floor and that it would be well to rear-

range space allotments, where possible, to provide ward facilities adjoining these emergency operating rooms.

To administrators of hospitals Dr. Bernecker says that they should know their institutions as never before, not counting on assistants for certain knowledge . . . and, as executive officers in charge, they should be ready for call at any time.

Newsy Notes

Twenty-three physicians and surgeons deemed to have contributed most toward the creation of Polyclinic Hospital were honored on February 10 when their portraits were unveiled in the faculty room of the hospital which is located at 341 West Fiftieth Street, New York City. Seven of the honored men are living. They are Drs. Bryson Delavan, Bernard Sachs, Frederick Whiting, Charles G. Kerley, Orrin S. Wightman, Frederick H. Dillingham, and Royal Whitman.

. . . .

Dr. Bernard S. Oppenheimer was recently honored by his fellow physicians of the Mount Sinai Hospital, New York City, when he was presented an 869-page volume of medical papers. It is Volume VIII, Number 5 of the *Journal of the Mount Sinai Hospital*, consisting of 106 papers especially contributed for the occasion. Among the authors of these papers are many of the leading medical men of America, not a few of whom began their careers as Dr. Oppenheimer's pupils.

The hospital is celebrating its ninetieth year of service.

. . . .

Four hundred leaders of the medical profession attended a dinner on February 7 at the Waldorf-Astoria Hotel dedicating the recently opened Adelphi Hospital in Brooklyn. Dr. Thomas A. McGoldrick, chief medical officer in charge of civilian defense of Kings County, said the responsibilities of the new hospital at Greene Avenue and Adelphia Street were greater than had been anticipated because of its location near the Navy Yard, where thousands of men are working.

. . . .

Mrs. Edmond Borgia Butler, director of the Corps of Volunteers of St. Vincent's Hospital, New York City, has laid down three crisp rules for the 100 women who work under her.

"Know your place, find your place, and keep your place," she advises each recruit.

The volunteer service at the hospital is reputed to be outstandingly good.

. . . .

With the addition of about 25,000 subscribers and dependents last year, the Rochester Hos-

[Continued on page 474]

* The recent Normandie disaster afforded these emergency medical field units the opportunity to function on a large scale and, as a whole, their performances were excellent.—Editor.

Hospitals and Sanitariums

Institutions of Specialized Treatments



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On one hand we have the boosters of greater efforts in
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cal profession for half a century.

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ESTABLISHED 1889

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therapy. Beautifully located a short distance from Rye Beach.

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[Continued from page 472]

pital Service Corporation boasts a membership of about 185,000, Sherman Meech, director, has announced.

The per capita rating of the association to the territory it covers is one of the largest in the country, Meech said.

His report coincided with an announcement by the American Hospital Association Hospital Service Plan Commission showing that 2,500,000 persons became members of associations in the nation last year, bringing the total membership to 8,500,000.

. . .

"The Alumni Association of the Jewish Memorial Hospital of New York City announces, with great pleasure, the appointment of Dr. Philip Slater, as roentgenologist of the Sea View Hospital."

. . .

In a building erected as a memorial to Queens men who served in World War I, Jamaica Hospital passed its fiftieth milestone girding for World War II.

On February 17—exactly a half-century since the charter for the hospital was granted—a dinner-dance was held in the Waldorf-Astoria Hotel, Manhattan. The celebration, however, was but a respite from the serious business of preparing to handle casualties that might come to Queens from enemy air attacks.

Fifty years ago the hospital opened its first building—a frame house with 5 beds at Jamaica Avenue and 168th Street.

. . .

Conferences with laymen and physicians of Harlem to discuss establishment of a voluntary hospital in that community have been in progress for some time, the third annual report of the Hospital Council of Greater New York discloses. The council is a community agency to improve hospital and health services throughout the city.

Such an institution, the report sets forth, would afford staff affiliations for qualified Negro physicians and accommodations for their private patients and additional ward beds for indigent patients.

. . .

"Wake up and forget Pearl Harbor," was the advice given by Dr. Ralph W. Sockman, pastor of Christ Methodist Church, New York City, at the recent annual dinner meeting of the Vassar Brothers' Hospital in Poughkeepsie. "Forget the vindictive, vengeful slogan, 'Remember Pearl Harbor,' and substitute for it a remembrance of the valiant defense of Wake Island," he urged. "We can win without the vengeance motive, win the war and win the peace to come after it."

. . .

Superintendents and superintendents of nurses in hospitals of seven counties in central and northern New York met in Broadacres Sanator-

ium, Utica, January 15, to discuss the part to be played by the institutions during blackouts and in event of emergency service resulting from air raids. Represented were the five hospitals in Utica, Ilion Hospital, Little Falls Hospital, Memorial Hospital in Herkimer, Pine Crest Sanatorium at Salisbury Center.

Also, Lowville Hospital, Oneida City Hospital, Rome City Hospital, Oneida County Hospital at Rome, Rome State School, Utica State Hospital, Mercy State Hospital, Good Samaritan Hospital in Watertown, and Broadacres Sanatorium.

Improvements

The capacity for patient care of Mount Vernon Hospital's x-ray department has been increased 75 per cent by the installation of new equipment at a cost of \$6,000 according to Arthur B. Solon, superintendent.

. . .

Action of the Office of Production Management in Washington listing the new St. Mary's Hospital in Rochester a "defense project," with a preference rating of A-4, has cleared the way for a financial campaign with a goal of \$275,000 which was held January 23-February 2.

The new hospital will aid powerfully in meeting what health experts term Rochester's greatest need in the field of health, supplying low-cost hospital beds for patients suffering from acute illness.

. . .

A \$22,000 extension that will increase accommodations by 17 beds will be constructed at the Saranac General Hospital.

. . .

To the welfare of the sick in peace or war, Archbishop Francis J. Spellman on January 4, dedicated a new nine-story building constructed as the major part of a \$1,300,000 modernization program at St. Vincent's Hospital.

. . .

Formal opening of the new extension of the Westchester Square Hospital, Seddon Street and St. Raymond Avenue was held on January 20.

The addition provides space for 110 beds and 30 bassinets, which increases materially the hospital facilities of the North Bronx section. The hospital, although privately operated, will continue its policy of taking care of emergency needs of the neighborhood, Dr. John Dolan, president, announced.

. . .

With the skyscrapers of lower Manhattan and their 1,000,000 working occupants particularly subject to enemy air attacks, plans have been made for setting up emergency facilities in Beekman Hospital and for raising \$500,000 to cover the cost.

Hospitals and Sanitariums

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Woman's Auxiliary

To the Medical Society of the State of New York

A REPORT of the Executive Board meeting held February 16-17, 1942, at the DeWitt Clinton Hotel, Albany, will appear in the March 15 issue of the JOURNAL.

Also watch for more State Convention News. The dates: April 27, 28, 29, 30, 1942. The place: The Waldorf-Astoria, New York City.

The following is a list of the chairmen of the Convention committees:

Mrs. L. E. VAN KLEECK—*Cochairman*
Acknowledgments, Mrs. S. W. S. TOMS
Dinner, Mrs. L. M. LALLY
Entertainment, Mrs. C. POTTER
Flowers, Mrs. F. E. ELLIOT
Headquarters, Mrs. L. HARRIS
Hobby Show, Mrs. H. L. HIRSCH
Hospitality, Mrs. B. D. ST. JOHN
House of Delegates, Mrs. W. J. LAVELLE
Information, Mrs. M. SCHULTZ
Junior Ushers, Mrs. F. TOWNE
Luncheon, Mrs. J. McKEEVER
Printing, Mrs. GEORGE SMITH
Publicity, Mrs. E. A. GRIFFIN
Registration of Delegates, Mrs. W. DAVIS
Registration—General, Mrs. H. MENCKEN
Resolutions, Mrs. A. M. BELL
Supplies, Mrs. OTTO PFAFF
Tea—Wednesday, Mrs. WM. CARHART
Tickets, Mrs. M. BERGMAN
Finance, Mrs. D. J. SWAN

These women are busy building the foundation for your convention. Please remember, sister members, we are counting on your help in the completion of its structure. More news in the next JOURNAL.

Be seeing you at the convention.

MABEL A. POHLMANN

County News

Cattaraugus. At a luncheon meeting in the Colonial Room of the Olean House an instructive talk on "Blood and Plasma" was given by Dr. David J. Maloney, who illustrated his topic. The membership decided to continue to have physical check-ups once a year.

Chautauqua. The wives of the doctors were entertained at the Eighth District meeting. Mrs. George B. Adams, state president, stressed the permanent value of the organization. The ladies joined the doctors for luncheon, after which they were taken on a tour of the furniture building, a rare privilege for guests. Afternoon tea at the home of Dr. and Mrs. Harold A. Blaisdell completed the afternoon plans. At the previous meeting the members were conducted by Dr. F. R. Weedon on a visit to the Municipal Laboratory.

Columbia. To the business meeting and luncheon at the General Worth Hotel, Hudson, January 27, each member was privileged to invite two guests. The guest speaker was Henry James, chairman of the Columbia County Red Cross Chapter.

A decision was made to assist Dr. Ralph Spencer in the cancer control program. A donation of \$10 was given to the Red Cross War Fund Drive.

Fulton. At the last meeting Mrs. Alfred Madden, state legislative chairman was guest speaker. The topic was "What Physicians' Wives Can Do in the State Program of Medicine." After the meeting the members did Red Cross work.

Montgomery. Mrs. George B. Adams, of Auburn, president of the New York State Auxiliary, was guest speaker at the monthly meeting which was held at the Town House. Preceding the meeting a luncheon was served. Mrs. E. A. Bogdan reported that it will be possible to place the *Hygeia* in the junior and senior high schools of the city and county. There was no February meeting. The next meeting will be on the second Monday in March.

Nassau. The auxiliary sponsored a nutrition forum. In March they are having a Cancer Institute.

Oneida. The outstanding project of the auxiliary for the year is "blood typing." Within the group there are two first-aid units, one the advanced.

Onondaga. A general plan of defense work is being carried on. At the last meeting Mrs. James R. Wilson gave an outline on "Organized Housewives." The March meeting will be an heirloom party. In April, Dr. Louis H. Bauer will speak on "Nutrition."

Oswego. The auxiliary gave a \$50 donation to the Red Cross, the proceeds from the fashion show. Mrs. Porter Butts gave an informative talk on the defense program.

Queens. Mrs. Alfred Madden was guest speaker at the January meeting. A donation was given to the Red Cross War Fund Drive. The amount was \$10.

Rensselaer. The last meeting was held at the McKean House of the Leonard Hospital. Mrs. Eugene F. Connally was elected president, succeeding Mrs. John J. Rainey. Mrs. Arthur W. Benson was made president-elect. The regular annual reports were given. Tea and a delightful party followed the meeting.

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HOSPITALS IN NEW YORK STATE

According to the most recently released official figures on number of hospitals, New York State has 571 with a total bed capacity of 188,985 and 8,286 bassinets.

A recent edition of a hospital directory lists only 492 for the State but classifies them as: 346 General, 36 Mental, 34 Tuberculosis, 21 Obstetric, 12 Children's, 11 Prison, 8 Contagious, 5 Eye, Ear, Nose and Throat, 4 Convalescents, 3 Chronic Cases, 2 Incurables, 1 Nervous and Neurotic, 1 Special Type, and 8 unclassified.

As to ownership, the directory listed them as—181 by non-profit associations, 72 by churches, 52 corporation owned or controlled, 43 by cities, 33 by the State, 28 by counties, 27 by individuals, 14 by the Federal Government, 4 by partnerships, 2 by fraternities and 9 were unclassified.

In other words 118 were maintained by taxes, 255 are maintained purely on a samaritan basis, and 83 for commercial reasons—yet all serve a common and necessary need.

TWO HUNDRED YEARS AFTER

In 1975, two hundred years after the shot that was heard around the world—we will be an old nation in years and an old nation in population.

According to the Census Bureau's estimate, in that year of the future with a total population of some 152,000,000 beings, only 19.4 per cent of the population will be youths 14 years of age or less. Today this age period constitutes 25.1 per cent of the nation.



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New York City Office

JAMES F. VAVASOUR, M.D.

President

67 West 44th St., Tel. YANDERBILT 6-3732

Physician in Charge

Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N. Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and interest to our readers.

RECEIVED

Administrative Medicine. Haven Emerson, M.D., Editor. Quarto of 839 pages, illustrated. (Loose-leaf.) New York, Thomas Nelson & Sons, 1941. Cloth, \$7.50.

Dr. Haven Emerson has done a good job in bringing together in one volume a description of the various organized medical and community health activities in operation today.

It is a far cry from the simple forms of the private practice of medicine which prevailed for several generations to the present complex interrelations of private practice, disease control and health promotion.

More than fifty men and women, each qualified and active in his or her special field, have contributed to the subject matter set forth. The author divides the book into three fundamental parts, as follows:

1. The Organized Care of the Sick. Hospitals predominate in this group and all types are discussed, general, rural, communicable diseases, tuberculosis, mental, chronic diseases, and convalescent. The more recent developments such as organized medical care in the home through social service and by visiting nurses are considered next. Sickness surveys and voluntary hospital care insurance complete this group.

2. Public Health Services. Several sections are given over to the administrative features of governmental health agencies of various kinds. Then follow more than a score of functional activities, each discussed in a separate section.

3. Inclusive Medical Care for Prevention and Treatment. Under this rather vague heading, various medical services operating under governmental auspices in the armed forces and at colleges and universities are described.

It would seem that in this third group the modern community work done by county medical societies as units might be included. Again, those phases of industrial health work as administered in large and medium-sized corporations might have been given more attention as their work constitutes a major factor in this field.

Fortunately, the loose-leaf type of book selected for this publication will permit an early inclusion of subject matter that is lacking or the replacement of material becoming obsolete. And that is an admirable feature of this book.

ALFRED E. SHIPLEY

Outlines of Industrial Medical Practice. By Howard E. Collier, M.D. Octavo of 440 pages. Baltimore, Williams & Wilkins Company, 1941. Cloth, \$5.00.

The author states that the work was originally designed for a textbook of industrial medicine but that the relevant material was published in a modified and curtailed form as an *Outline of Industrial Medical Practice*, a statement that fully describes the book.

The work is divided into five parts. In Part

I the author describes the executive duties of the physician in industry, activities that have to do with organization of the first-aid room or dispensary, the application of first aid, and the care of the injured workmen, medical examinations, records, and statistics.

Part II deals with industrial hygiene, which the author classifies under advisory functions, and under this heading he treats ventilation, lighting, the effects of noise, speed of work, weight lifting, and motion at work.

Part III is devoted to industrial psychology, which the author deems is of importance, and under this title he includes the occupational neuroses and miners' nystagmus.

Part IV, Industrial Medicine, is devoted to a description of industrial poisons; the skin diseases of occupation; the pneumoconiosis; the effects of gases, smoke fumes, and toxic dusts; and the infections and the traumatic diseases of occupation.

Part V discusses the British Factory Act (labor laws in the United States) and also the application of the British Workmen's Compensation Act. There is a bibliography of six pages and an index.

The book is written in an interesting manner but is from the point of view of an English physician and British industrial life which the American physician, as a rule, has difficulty in understanding, since processes and occupations often have names not familiar in American industrial life. However, the author's treatment of the subjects—executive duties, industrial hygiene, diseases incidental to occupation, and industrial psychology—is for a small volume quite comprehensive and would be of aid to physicians in the United States who are engaged in the practice of industrial medicine.

CHARLES T. GRAHAM-ROGERS

Cardiac Clinics. A Mayo Clinic Monograph. By Frederick A. Willis, M.D. Octavo of 276 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$4.00.

This monograph is a compilation of the Cardiac Clinics published by the author in the weekly publication of the staff meetings of the Mayo Clinic. The subject matter is uniquely presented insofar as each cardiac symptom is discussed with a case in point to illustrate the desired clinical feature.

The cases are presented briefly and concisely, and the discussion is pointed after a style that characterizes all the author's publications. The arrhythmias are well presented. There are few but well-selected photographic illustrations. The book is written primarily for the busy practitioner and is, therefore, depleted of investigational data and all but the most pertinent facts.

It makes light reading and is well worth the effort. It should have a definite place in the library of every general practitioner.

BILL GREENFIELD

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Editorial

Immunization Urged

The vast program of production now under way in the war effort will necessitate enormous shifts in population. Crowded housing conditions and overtaxing of sanitary facilities in many communities must inevitably afford opportunity for the spread of communicable disease.

Anticipating this possibility, Assemblyman Lee B. Mailler, chairman of the New York State Health and Preparedness Commission, has set up an Immunization Committee in that body. The personnel is composed of Dr. E. S. Godfrey, Jr., New York State Commissioner of Health; Dr. Claude C. Pierce, medical director, U. S. Public Health Service; and Dr. John L. Rice, commissioner, New York City Department of Health.¹

"The Immunization Committee was organized to study and make recommendations regarding widespread immunization procedures to be instituted for the protection of the public from the standpoint of civilian defense and possible evacuation.

"Another disease [in addition to smallpox] against which the committee recommends vaccination is diphtheria. Particular efforts should be made to obtain the immunization of a larger percentage of children under 9 years of age. This should include all children under that age who have not previously been immunized, with particular emphasis on those less than 5 years old.

"The committee points out that while it is obvious that provision should be made for ample stocks of typhoid vaccine the primary emphasis in the prevention of typhoid fever should be placed on proper sanitation of environment, which would include the safety of water, the pasteurization of milk, and safe sewage disposal systems.

"The committee refused to recommend vaccination against other diseases for which specific vaccines of varying efficacy exist. It was stated that to include these diseases would detract from the effectiveness of efforts made to secure immunity against those diseases for which reliable and highly effective immunizing agents exist and whose prevalence in this country constitutes immediate and constant health hazard."

The principal emphasis in the organization of the medical aspects of civilian defense so far has been rightly placed on the hospitals and their ancillary services in order that they might function efficiently in the event of civilian catastrophes. But it must not be forgotten that the ordinary, as well as the extraordinary, functions of medical practice, health, and sanitation must go on.

Smallpox, diphtheria, and typhoid we have with us always. Parents can be enlisted in a more vigorous program of immunization of their children if each physician will stress the fact that in this way they can make a contribution to the betterment of the national health in a crucial period of our existence.

School physicians, school nurses, and local health departments should ma-

¹ Defense Digest, Defense Information Commission of the New York State Council of Defense, February 15, 1942, page 4.

terially assist the private practitioners by an active campaign of education directed to this end. The shortage of physicians and nurses now making itself felt throughout the state is an additional

reason for striking hard at this time to prevent the occurrence and spread of communicable disease. An ounce of prevention is, more than ever, worth a pound of cure.

Early Deficiency States

Much attention is being paid to the subject of nutrition by government, the profession, and the laity. Some of it is well directed. Of the rest, the less said the better.

It is probable that early nutritional failure is somewhat prevalent in the nation. Early deficiency states are difficult to recognize even by well-trained observers. Since it is not known how widespread these may be, it is difficult to assay the value of much of the present teaching in nutrition.

The current report of the subcommittee on Medical Nutrition, Division of Medical Sciences, National Research Council, is therefore of exceptional value at this time. Commenting editorially on the report published in the *J.A.M.A.* for February 21, 1942, . . .

"The Subcommittee warns that no symptoms or physical signs can be accepted as diagnostic of early nutritional failure. It says, however, that symptoms and signs 'when verified by a competent physician and when other possible causes have been ruled out should be considered as significant indications.'

"Those symptoms in infants and children which parents or teachers might observe are as follows: lack of appetite, failure to eat adequate breakfast, failure to gain steadily in weight, aversion to normal play, chronic diarrhea, inability to sit, pain on sitting and standing, poor sleeping habits, backwardness in school, repeated respiratory infection, ab-

normal intolerance of light, and abnormal discharge of tears. The physical signs are bad posture and sores at angles of the mouth.

"The symptoms in adolescents and in adults are as follows: lack of appetite, lassitude and chronic fatigue, loss of weight, lack of mental application, loss of strength, history of sore mouth or tongue, chronic diarrhea, nervousness and irritability, burning or pricking of skin, abnormal intolerance of light, burning or itching of eyes, abnormal discharge of tears, muscle and joint pains, muscle cramps, and sore bleeding gums. Sores at the corner of the mouth are the only physical signs listed in adolescents and adults which might be observed by laymen."

A careful reading of the symptoms and signs will indicate the difficulty in making a clinical diagnosis of early deficiency states and emphasizes the warning of the subcommittee. Physicians will do well to call to the attention of teachers the medical facts of the subcommittee's admonition. Most of the defense councils now in operation have a committee on nutrition. It is composed of lay people in most places. As these become active and attention is drawn to possible instances of early deficiency states, physicians will be consulted by anxious parents. It is well that they should bear in mind the fact that no acceptable diagnostic criteria exist and that a diagnosis should be made only when all other causes have been ruled out.



Buy U. S. Defense Bonds and Stamps



Industrial Health in Wartime

On February 26, 1942, the Committee on Public Health and Education of your Society, through the Subcommittee on Industrial Health, presented its first program at Buffalo, New York, under the auspices of the Medical Society of the County of Erie, the University of Buffalo School of Medicine, the Division of Industrial Hygiene, New York State Department of Labor, and the New York State Department of Health.

Under the chairmanship of Dr. Herbert H. Bauckus, a program including industrial pulmonary diseases, technics of physical examinations in industry and medical standards for rejection, systemic effects of various substances commonly used in industry, traumatic surgery with emphasis on the treatment of wounds and shock was presented by a distinguished group of industrial physicians and surgeons.

The membership of six interested adjacent county societies was invited to attend as well as third- and fourth-year medical students of the University of Buffalo School of Medicine. Industrial organizations and the local Chamber of Commerce together with other interested civic groups proved to be most cooperative.

Industrial medical personnel in this period of wartime speedup is needed in three principal fields according to the *J.A.M.A.* for February 21, 1942: "(1) the government services, (2) governmentally owned but privately operated ordnance works, and (3) private plants with war contracts. . . . Under the pressure of events neither employers nor physicians yet fully comprehend how vast a contribution could be made to the war effort by a well organized industrial health program. . . .

"Medical organizations, in company with trade and manufacturing associations, are beginning to undertake the dual obligation of educating industry to the benefits of modern industrial health and developing physicians able to respond to

this created demand for medical supervision. The process must be accelerated lest some form of compulsory medical supervision be imposed on industry, as has already occurred in England. The ability to bring the physician into the plant under terms agreeable to industry, to the worker and to medicine will be enhanced if suitable education and promotion can be developed."

Certainly the first program of the Committee on Industrial Health is a step forward in the promotion and implementing of such a well-organized endeavor as that called for by the Council on Industrial Health of the *A.M.A.* We hope this is the first of a series that will eventually cover the entire state. At the same time some forethought must be given to the practical issue of the reservation of especially trained personnel. A contribution to this problem is offered by the *J.A.M.A.*

"If a substantial demand is created, much will depend on the ability of the Procurement and Assignment Service to avoid the dislocation of the existing supply of competent industrial physicians who are doing an essential job of keeping indispensable men at work. A physician under 45 who is physically fit and who wishes to remain in his industrial position would need to be certified as absolutely essential to industry by the industrial establishment which employs him. Industrial physicians in the 45 to 60 age groups might be dislocated if certain specialist classifications should be called. In the over 60 group, dislocation is considered unlikely. New medical personnel for industry will be located and assigned under advice from corps area, state and county referees, with the assistance of the Procurement Board's Advisory Committee on Industrial Health and Medicine. As substitutes for eligible and replaceable industrial physicians, principal reliance will no doubt be placed on physically unfit male physicians under 45."

Since the percentage of rejections for full military duty in the age group 45 to 65 will undoubtedly be high, it would seem to us that a special appeal to this

group by the Society's Committee on Industrial Health to attend its educational courses in industrial hygiene would prove valuable. Through the services of the newly formed P. and A. state office

it should shortly become possible for the first time in this war for the Society to reach any particular group of physicians, thus increasing materially its postgraduate educational efficiency.

A Word to Our Authors

For those of you who are preparing to read a paper at the Annual Meeting, and which subsequently will be published in the JOURNAL, we are printing in this issue two pages of "suggestions." The one opposite deals primarily with the preparation of the manuscript which, if followed, will greatly expedite the publication of the paper. The suggestions on page 574 (if followed), will make the paper more enjoyable for its readers.

A word also to those discussing papers: often these remarks are given without preparation yet should be printed as a part of the program. For this reason, before the discussions are handed in, they should be prepared for publication with regard to typing, continuity, and brevity.

Papers that are often received enthusiastically at a meeting are not necessarily so satisfactory in print and, because of this fact, much care and thought should go into the preparation of a manuscript. "When the paper is published the personal equation does not enter in and the courtesy of the listener has vanished; it is now in cold type."¹

"Brevity, conciseness, the elimination of unnecessary details and the avoidance of branching off into unrelated and irrelevant subjects and of the use of colloquial language" should be the goal of authors.

Pardon our "preaching" but since you must be our readers as well as our authors the editors feel justified in making every effort to give you a still better JOURNAL.

¹ *Medical Writing*, A.M.A. Press.

Correspondence

To the Editor:

We have all heard about the number of "social gains" that should not be surrendered during the stress of war. One of the keystones of the program of "social gains" consists in what is called a standard work week. In certain trades "overtime pay" begins after thirty hours per week, and in some other occupations excess rate pay begins at forty hours a week. The sky is the limit as to the number of hours an individual may work on an overtime pay basis.

I realize that life is always full of iniquities, and that there is reasonably good evidence that artisans of various sorts engaged in defense production may be so much in demand just now that one should not envy the carpenter getting paid \$150 a week or an average pay check of from \$60 to \$100 a week for individuals who are qualified in semiskilled occupations.

It also happens that at the present time there is a shortage in the supply of physicians, and that the shortage is noticeable in certain special branches of medicine.

It is now obvious that physicians will materially increase their civic responsibilities and add to their quota of voluntary and unpaid work in hospitals. It seems to be true that physicians are going to be called upon to devote additional unpaid time to various preparedness and defense duties.

There is no reason to believe that revenue from private practice will materially increase for the physicians who remain on a civilian status. They may do more work but purchasing power impairment will be reflected in fees received.

The gist of all this is that physicians can hardly be put in the class of those who are profiting from the war or increasing their incomes in proportion to the increase in the number of hours per week spent in professional work.

Sincerely,
GEORGE H. HYSLOP, M.D.

February 12, 1942

If You Are Reading a Paper at the 1942 Annual Meeting . . .

THE NEW YORK STATE JOURNAL OF MEDICINE will appreciate your following the suggestions listed below in the preparation of your manuscripts. These suggestions have been devised in order to save correspondence, avoid return of papers for changes, minimize the work of preparation for the printer, and save the high costs of corrections made on galley proof.

Size of Articles.—It is earnestly desired that scientific articles shall not exceed ten JOURNAL pages at the outside. Even that number of pages tends to lower reader interest. An average of five or six seems to be the most desirable from this point of view. Calculation can readily be made by multiplying the number of double spaced typewritten manuscript pages by the fraction two-fifths.

Manuscripts.—Papers must be typewritten on one side only of white sheets consecutively numbered, and be double spaced with one-inch margins. They should be prepared with great care so as to be typographically correct. All headings, titles, subtitles, and subheadings should be typed flush with the left-hand margin.

Titles.—The title should be *brief* and typed in capital letters. The subtitle can be longer and should be typed in cap and lower case letters. Under the title, or subtitle, if there is one, should appear the name of the author and city in which he lives.

Subheadings.—Subheadings should be inserted by the author at appropriate intervals.

References.—It is the unfailing practice of the NEW YORK STATE JOURNAL OF MEDICINE to use specific "references" rather than "bibliography." There should appear in the text reference numbers, typed above and to the right of the word to which there is a reference. A list, consecutively numbered, should include the following items.

- a. *Books*—author's surname followed by initials; title of book; edition; location and name of publisher; year of publication; volume; and page number. Thus, Osler, W.: Modern Medicine, ed 3,

Philadelphia, Lea & Febiger, 1927, vol. 5, p. 57.

- b. *Periodicals*—author's surname followed by initials; name of periodical, volume, page, month (day if necessary), year of publication. Thus, Leahy, Leon J.: New York State J. Med. 40: 347 (Mar. 1) 1940.

NOTE: The JOURNAL does not include titles of articles.

Case Reports.—Instead of abstracts of hospital histories, authors should write these reports in a narrative style with properly completed sentences. All unimportant details should be deleted with such general negative statements as fit the case.

Tables.—While tables are very useful on lantern slides in the reading of papers, they fail of this purpose to a large extent in the printed page. For that reason it is urged that they be incorporated in the text.

Illustrations.—These should be kept to the minimum necessary to make clear the points to be registered by the author. In some instances they are imperative to proper understanding, in others they are merely picturesque.

Where illustrations are to be used they should accompany manuscripts and each should always be referred to in the text, preferably by number. Drawings or graphs should not be larger than 12 × 16 inches, and must be made with jet black India ink on white paper or tracing cloth. *Do not use typewriter for lettering.* The smallest lettering on 8 × 10 inch copy should be no less than 1/4 inch high. Cross-section paper (white with black lines) may be used, but should not have more than 4 lines per inch. If finer ruled paper is used, the major division lines should be drawn in with black ink, omitting the finer divisions. In the case of finely ruled paper, only blue-lined paper can be accepted. Lettering and all markings must be large enough to be readable after reduction. Mail rolled or flat. Photographs should have clear black and white contrasts and be on glossy white paper.

Whenever possible "crop" photographs, i.e., mark portion that can be excluded when reproduced. Crop marks should be on *margin* of photographs—not on the photographs.

It is important to mark the top of the illustration on the back, also its number as referred to in the text, thus, Fig. 1, 2, and the name and address of the author.

Legends should be typewritten on one sheet of paper and attached to the illustrations.

House of Delegates—Reference Committees

THE Speaker, Dr. Louis H. Bauer, announces the appointment of the reference committees or the meeting, April 27, 1942.

Report of:

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Symposium on the Mortality of Amputations for Diabetic Gangrene

DIABETIC LOWER EXTREMITY AMPUTATIONS

A Report Over a Five-Year Period at St. Luke's Hospital

FRED W. SOLLEY, M.D., New York City

THE following is a statistical study of all types of amputation involving the lower extremity in diabetic patients admitted to the wards at St. Luke's Hospital during the five-year period from 1934 to 1938, inclusive. In order to evaluate properly the results of such a survey, a brief general outline of the methods used in handling these cases seems desirable.

Outpatient Department

The medical diabetic clinic is exceedingly satisfactory, being well organized under the direction of Dr. James Ralph Scott. It has surgical and orthopaedic consultants in regular attendance, as well as a podiatrist who has attended the clinic for over five years under both medical and surgical supervision.

The outpatient department surgical care of the diabetic patient is fair, being handled by the general surgical clinic. It is chiefly a matter of luck whether the patient is seen by a surgeon who is particularly interested or experienced in "diabetic surgery."

The follow-up is managed by the general surgical follow-up clinic, and each surgeon usually sees the cases upon which he has operated.

Hospital Care

The actual surgery is done by any surgeon on the attending staff, since there is no real specialization. Medical consultations, when requested, are excellent as to cooperation and judgment, but here, also, any medical attendant may be called, since there is no actual organized teamwork. More recently, and especially since the period covered in this case report, the attempt has been made to insure experienced consultations for diabetic patients, both medical and surgical, with gratifying improvement in our results.

Anesthesia is in no way specialized for the diabetic patient. Each surgeon selects the anesthetic he desires at the time of operation. All anesthetics are given by resident physicians specializing in this work, and not infrequently decision as to the type of anesthesia for a given

diabetic case is left to the anesthetist. Personally, I believe anesthesia for these cases to be in the following order of desirability: (1) low spinal (with inhalation of oxygen as needed), (2) cyclopropane (or ethylene) and oxygen, (3) nitrous-oxide and oxygen, (4) ether added to the above gases, (5) open ether, (6) local novocain (rarely useful except for the incision and drainage of a well-localized superficial abscess), (7) chloroform—never!

Preoperative preparation of the extremity is usually done by the attending surgeon, or under his supervision by the resident, after the anesthesia has been started.

As a rule, tincture of iodine is applied to the skin and then partially removed with alcohol, but recently the various proprietary mercurial tinctures are gaining popularity.

Chemotherapy was not used in this series either before or after operation, and none was used locally in any of the wounds.

Operative technic is naturally variable, since the cases are handled by so many different surgeons. Some apply tourniquets; others do not. In the closed amputations most operators use catgut in the muscles and fascial layers and silk or dermal in the skin.

Pre- and postoperative medications also vary greatly. Morphine and hyoscine are the "routine" preoperative drugs and, recently, the barbiturics, especially sodium pentobarbital, are frequently added.

Our indications for amputations depend upon two factors: adequacy of circulation and severity of infection. Oscillometric and dermo-thermic readings are not routinely used, and in my humble opinion these facilities are entirely unnecessary in arriving at an accurate and reliable decision as to the indication for amputation. Experienced and intelligent use of the time-proved methods of inspection and palpation are sufficient. The circulation is considered "adequate" if the patient shows: (1) a warm foot with or without a palpable dorsalis pedis pulsation; (2) little or no pain on bed rest for twenty-four to forty-eight hours with adequate diabetic treatment.

Severity of infection is determined by:

1. Obvious presence of cellulitis or abscess formation, as well as x-ray evidence of suppurative arthritis or osteomyelitis. Incidentally,

Symposium read at The New York Academy of Medicine under the auspices of the Committee on Surgery of the New York Diabetes Association, Inc., December, 13, 1940.

TABLE 1.—INCIDENCE OF DIABETES AND GENERAL DIABETIC SURGERY (FIVE-YEAR PERIOD—1934 TO 1938, INCLUSIVE)

	Hospital Admissions	Total Diabetic Patients*		Total Surgical Diabetic Patients	
		Cases	Per-centage	Cases	Per-centage
Five-year total	39,370	702	1.8	258	0.7
Yearly average	7,874	140	1.8	52	0.7

* Percentage of general surgery in total number of diabetic patients is 36.8.

the presence of incipient suppurative arthritis or osteomyelitis can and should frequently be detected clinically before any x-ray evidence of these lesions can be demonstrated.

2. Fever is the most valuable evidence to us of the severity and seriousness of the infection. White blood counts and sedimentation tests are helpful, but in the last analysis the fever tells the story. With a rectal temperature persisting over 101 F. for more than forty-eight hours on bed rest and adequate diabetic treatment, we seriously consider an emergency amputation. And with cool or cold toes or foot, pain on bed rest, and a temperature over 101 F. leg or thigh amputation is considered imperative.

The site of amputation is determined by applying the same criteria. "Conservative" amputation of a toe and the distal part of its metatarsal, as long advocated by McKittrick, is performed in those cases with adequate circulation and an infection sufficiently mild or well localized to justify the procedure.

When the circulation is judged to be inadequate by the presence of cold and painful toes and foot, a "closed" leg or thigh amputation is performed provided the infection is mild or well localized as evidenced by a low temperature.

With inadequate circulation and severe infection shown by high fever, guillotine amputation in the leg or thigh is performed.

The Gritti-Stokes has been used to some extent in our hospital, but in my opinion this plastic operation on the knee joint requires such adequate circulation that a leg amputation below the knee would be equally successful in any case where it is worth consideration, with the obvious advantage of a preserved knee joint.

Dressings following these amputations vary considerably, as would be expected from the foregoing. The usual closed amputation is covered with a dry dressing, and a protective posterior molded plaster splint is frequently added. In guillotine amputations, moleskin or adhesive skin traction is the rule, with wet dressings or ointments applied to the wound as seems indicated. Clean wounds are left unmolested for six to ten days. Open or drained cases are dressed daily or every second day. The early postoperative dressings are usually done by the attending surgeon, who in many cases prefers to do all the dressings himself. If the dressings are done by interns, supervision is at regular

TABLE 2.—ADMISSIONS REQUIRING AMPUTATION, SINGLE OR MULTIPLE (1934 TO 1938, INCLUSIVE)

Total Deaths Mortality	34* 9 26.5%
------------------------	-------------------

* Actual number of patients—30. Four of these had two different admissions for amputations.

intervals, and in our experience this is important.

Nursing care of the surgical diabetic is in no way specialized in the hospital and, although the nurses are given the usual special training relative to the medical diabetic patient, all special care of the surgical condition requires special instruction, supervision, and orders for each particular case.

The foregoing regimen pertained to the five-year period covered in this review of the records. During the four years following, the desirability of specialization has been fully realized and, with its gradual adoption, gratifying improvement is becoming evident in our results.

In this five-year period, the total number of hospital admissions, the number of patients with diabetes, and the number of these diabetic patients who were subjected to general surgery of any kind are shown in Table 1. That over one-third of the diabetic patients underwent some form of operation seems remarkable, especially when we realize that before the advent of insulin a patient with diabetes was almost universally regarded as a dangerous risk for surgery.

Analysis of the series as to whether the diabetes was known to the patient and, if so, whether it was adequately treated revealed the following: admitted in total ignorance of their diabetes, 9 per cent; knew of the diabetes but had no treatment, 9 per cent; treated by diet but no insulin, 33 per cent.

Henceforth, this analysis is confined to diabetic patients on the ward services who underwent some form of amputation of the lower extremity. The total number of separate admissions of such cases in this five-year period was thirty-four, but the actual number of patients thus represented was only 30 as 4 members of the group were admitted twice. The mortality was 26.5 per cent, as shown in Table 2.

The sex incidence in this series seems worthy of mention. There were twice as many women as men—66.6 per cent women. Moreover, of the patients who died, 7 out of the 9 were women—77.8 per cent woman preponderance. Such figures serve to emphasize the damage done by the all too prevalent toe-

TABLE 3.—ANALYSIS OF MORTALITY AS TO SITE OF AMPUTATION

	No. of Cases	Deaths	Mortality, Percentage
Toe or toes only	9	0	0
Total leg amputations	7	3	42.9
Gritti-Stokes	6	1	16.7
Knee disarticulation	1	1	100
Thigh	11	4	36.3

squeezing feminine shoe—a frequent cause of discomfort or disability in the normal woman but far too often the inciting cause of death in the diabetic.

Age incidence was about average for these cases. The oldest patient was 74; the youngest, 45; and the general average, 62.

An analysis of the mortality as to the site of amputation is shown in Table 3. The absence of a single death in the group where toe amputation alone was done gives a false impression as to the safety of this procedure. In this series, in all cases where toe amputation alone did not control the infection, a leg or thigh amputation was subsequently performed. In behalf of conservatism, however, it is worthy of note that 9 patients, 26 per cent of the cases, were successfully treated by toe amputation alone.

The mortality in reference to multiple amputations is shown in Table 4, which strongly emphasizes the danger in allowing conservatism to overshadow proper regard for the safety of the life of the patient.

Of the 9 deaths in this series, 4 of the patients had preliminary toe amputations that were unsuccessful in controlling the infection and were followed later by amputations at a higher level. This is shown by the complete analysis of our mortality which is covered in Table 5.

Length of postoperative hospitalization, given in days with reference to the site of amputation, was as follows: toes only—average, 55.3, shortest, 13, longest, 150; legs—average, 36.3, shortest, 19, longest, 68; Gritti-Stokes—average, 36.4, shortest, 21, longest, 62; and thighs—average, 42.7, shortest, 26, longest, 73.

Analysis of the histories as to the type of injury which led to the amputation revealed the following: (1) shoe pressure on corn, 10 cases; (2) walking on plantar callus, 4; (3) patient cut corn, 4; (4) soft corn removed by chiropodist, 1; (5) infection and gangrene, cause unknown, 6; (6) dry gangrene, cause unknown, 3; and (7) accidental injuries (no one to blame)—(a) "injury to foot" (unspecified), (b) dropped pail on foot, (c) foot was

TABLE 4.—MORTALITY ANALYSIS AS TO MULTIPLE AMPUTATIONS

	No. of Cases	Deaths	Mortality, Percentage
Toe or toes followed by leg, knee, or thigh	8	4	50
Toe or toes followed by leg	2	1	50
Toe or toes followed by Gritti-Stokes	1	0	0
Leg amputation followed by thigh	2	0	0
Toe or toes followed by thigh	5	3	60

stepped upon by someone, (d) burned toe soaking feet in hot water, (e) accidentally scratched dorsum of foot, (f) went to sleep with electric pad on foot.

In an endeavor to ascertain to what extent the beds on supposedly "active" ward services are "tied up" by these cases, the following was elicited: (a) Of the patients who lived, the grand total of days in the hospital was 1,763 days; the longest hospital stay, 210 days; the shortest hospital stay,* 13 days. (b) Of the patients who died, the grand total was 270 days, the longest hospital stay, 66 days; the shortest hospital stay, 4 days.

The financial loss to the hospital in this series of cases (ward cases only) was: average cost per patient per day, \$6.75; daily average paid by patients, \$1.81; average loss to hospital per patient per day, \$4.94; loss in this series from patients who lived, \$8,709.22; loss in this series from those who died, \$1,335.80. The hospital loss from the total number of patients in the series was \$10,045.02.

Follow-up Results

Of the cases who survived, those wearing artificial limbs were as follows:

Out of 4 patients with leg amputations, 1 wore a prosthesis. There were 5 patients with Gritti-Stokes' amputations who survived; 2 of them wore prostheses. Of 7 cases surviving thigh amputations, none wore an artificial limb.

The reasons given for not wearing a prosthesis were as follows:

* Such a short hospitalization following any amputation in a diabetic lower extremity seems worthy of mention. The case was one of dry gangrene without any evidence of infection, appearing spontaneously in one toe of a diabetic woman who had remarkably good circulation in both feet. This in itself was unusual and was probably some localized vascular accident. The toe was amputated by disarticulation at the metatarsophalangeal joint, and the wound was closed by suture without drainage. The wound healed by primary union and her total hospital stay was thirteen days! We have never seen this happen before or since, and we certainly do not recommend it as a good procedure in these cases.

TABLE 5.—MORTALITY ANALYSIS AS TO CAUSE OF DEATH

Case	Sex	Site and Nature of Lesion	Age	Diabetes controlled	Preoperative		Circulation in Extremity	Amputations	Hospital Cause of Death	Days Lived Postoperative	Adequacy of Surgery
					General condition	Surgical risk					
1	F	Ulcer, fourth toe with cellulitis	64	Severe and uncontrolled	Very toxic; temperature, 104 to 105	Poor on admission	Very good	1. Toe and metatarsal 2. Closed thigh	Cardiac	1	Fair surgery (killed by delayed admission)
2	F	Infection and gangrene of third toe	67	Moderate	Temperature and pulse normal (arteriosclerosis)	Good	Very bad; cold foot and much pain	1. Toe and metatarsal 2. Upper third of leg (closed)	Infection and gangrene of stump (myocarditis and arteriosclerosis)	24	Poor judgment in both operations
3	F	Infection and gangrene of second toe	65	Mild	Temperature, 104; very toxic; acidosis; chronic cardiac valvular disease	Poor	Poor; cool foot and some pain	1. Toe and metatarsal 2. Closed thigh	"Toxemia" and chronic cardiac valvular disease	10	Ill advised; needed primary thigh and probably guilotine instead of toe amputation
4	F	Ulcer through plantar callus	70	Severe	Temperature and pulse normal	Poor	Fair; toes cool; foot warm, and pain slight	Upper third of leg	Cerebral thrombosis	23	Good. Temperature normal until nineteenth day postoperatively. Stump seemed to be clean and healing well
5	F	Infection and gangrene of fourth toe	60	Moderate	Nontoxic; pancytopenia and decompensation	Very bad	Bad; cold foot and much pain	Closed knee disarticulation	Infection and gangrene in stump (cardiac decompensation)	24	Fair. Thigh amputation would seem to have been wiser
6	F	Gangrene, third toe, and cellulitis of foot	55	Mild	Toxic; temperature, 101; nephritis. Chronic cardiac valvular disease	Bad	Bad; cold foot and marked pain	Upper third of leg (closed)	Uremia, cardiac decompensation; late gangrene of stump	17	Fair. Thigh amputation would seem to have been wiser
7	M	Gangrene of toes extending to foot	59	Mild	Temperature, 103; very toxic; bad cardiac	Bad	Bad; foot and leg cold and much pain	Lower thigh, very loosely closed	Arteriosclerosis and myocarditis	12	Excellent
8	M	Infected fissure, fourth web	61	Mild	Temperature and pulse normal; bad coronary (electrocardiogram)	Bad	Poor; cool toes and marked pain	Gritti-Stokes	Coronary occlusion (proved by electrocardiogram pre- and post-operatively)	4	Good
9	F	Ulcer, dorsum of foot	74	Mild	Temperature and pulse normal; bad chronic cardiac valvular disease	Bad	Poor; toes cool and some pain	1. Toe and metatarsal 2. Lower third thigh, loosely closed	B and panaritium and decompensation	2	The amputation was followed by spreading infection (debridement or thigh amputation would seem to have been wiser)

Amputation Site	Too Feeble	Simply Would Not Wear It	Other Leg Off
Leg (below the knee)	1	1	1
Gritti-Stokes	2		1
Thigh	5	1	1

The length of follow-up is: followed to time of death, 7 cases; went back to family physician, 3; failed to come ("lost"), 4; followed for a time then lost—two years, 2, one year, 2, and six months, 1; and transferred to chronic homes, 2.

A survey of the longevity of these cases revealed the following: 1, aged 66, died one year later; 1, aged 67, died two and one-half years later; 1, aged 70, died six months later; 1, aged 69, died three years later; and 1, aged 59, died three years later.

The value of chemotherapy has been so definitely established during the past two years that its employment in foot or leg infections in diabetic patients is becoming al-

most a routine. Though not used in this series of cases, we have employed it subsequently with increasing regularity, and the valuable assistance it offers in controlling infection, safeguarding conservative surgery, and reducing mortality makes it indispensable in the modern care of these patients.

Conclusion

The importance of specialization in the surgical care of the diabetic lower extremity cannot be overestimated. Equally important is the closest cooperation between the physician and surgeon. Hospital reports, showing striking reduction in mortality when such organization has been adopted, offer unquestionable evidence of the advantages to be gained by any institution able and willing to so specialize. It was in the hope of stimulating the desire for better surgical care of the diabetic lower extremity in all hospitals, as well as our own, that the analysis of these cases was undertaken.

SURGICAL ASPECTS OF DIABETIC GANGRENE

FRANCIS MCGARVEY DONEHUE, M.D., New York City

IN THE five-year period of 1935 to 1939, inclusive, 479 patients with diabetes were admitted to the Lenox Hill Hospital, of which only 21 proved to have surgical conditions: in 19, the lower extremity was affected; in 2, the upper extremity.

Source

Referred by outside doctors or on personal application	19
Referred from the outpatient department	2
Eleven different surgeons of the staff treated these 21 cases.	

Site of Involvement

Left foot	12
Right foot	7
Right hand	2
The little toe was most frequently involved in the left and right feet.	

Vascular Aspects

(a) Dorsopedal pulse:	
Absent	10
Present	4
Not mentioned	5
(b) Hypertension—present	2

Bacteriology

(a) Cultures

Associate surgeon, Lenox Hill Hospital
Lieutenant Commander, M.C., U. S. N.

Staphylococcus aureus	3
Staph. aureus (hemolytic)	5
Streptococcus (hemolytic)	3
(b) Blood culture positive only once (a hemolytic streptococcus), other cultures were negative.	

Anesthesia for Amputations (Toes and Thighs)

Spinal	6
Gas, oxygen and ether	10
Cyclopropane	3

Roentgenologic Findings

(a) Calcification of vessels (3 or 4 plus)	16
(b) Calcification of vessels, unreported	5
(c) Osteomyelitis	6

Amputations

- (a) *Indication:* rapidly ascending infection, lacking localization in the foot.
(b) *Site:* lower or middle third of thigh, leg amputation being considered too risky—i.e., unlikely to control ascending infection.

Thigh amputations (13)

	Number	Deaths
Lower third amputation	4	3
Midthigh	9	2
Toe amputations, single	9	0
Toe amputations, multiple	0	

Toe amputations followed by thigh amputations (3)

Two cases with no amputation were:

1. A septic patient who signed out against advice and
2. An aged woman with an absolutely uncontrollable diabetes.

(c) Types of amputation

	Number	Deaths
Guillotine	8	3
Flap	4	1*
Gritti-Stokes	1	1

(d) Drainage

	Number	Deaths
Drained	9	4
Not drained	3	1*

Secondary Operations (2)

1. Infected stump—died of pneumonia and nephritis;
2. Ligation of femoral artery for hemorrhage—death, subsequently, from sepsis.

Analysis of Depths (8)

(a) After thigh amputation	5
(b) After toe amputation	2
(c) After no operation (which was refused)	1

* Same case—a woman, aged 36, came late in her disease because of poor economic conditions. Marked atherosclerosis; flap operation. Died of pneumonia.

(A) Abstracts (After Thigh Amputation)

- (1) Atherosclerosis; nephritis; pneumonia.
- (2) Atherosclerosis (premature, age 36); sepsis; pneumonia.
- (3) Profound emaciation on admission with marked atherosclerosis; ligation of femoral artery for secondary hemorrhage—sepsis—death.
- (4) Amputation stump completely healed; hypertension; died of congestive heart failure.
- (5) Amputation stump completely healed; coronary occlusion.

(B) Abstracts (After Toe Amputation, 2)

- (1) Profound emaciation, sepsis of three weeks' duration; hemolytic Staph. aureus. No spread from foot, therefore, no thigh amputation indicated.
- (2) Great loss of weight on admission; only one toe amputated; diabetes never controlled in this aged, decrepit woman; complicating pyelitis; cellulitis; sepsis; death.

(C) Finally, a man with diabetic gangrene of one toe, who had a hemolytic streptococcus, blood-stream infection, refused surgery, and left against advice with blood culture still positive. This was the only patient who was not operated on and was the only case with positive blood culture.*

* It is unavoidable that the same cases come up again and again in the statistics on various aspects of this problem.

MEDICAL ASPECTS OF DIABETIC GANGRENE

EINAR GUSTAFSON, M.D., New York City

IN SURVEYING our 21 cases of diabetic gangrene from a purely medical aspect, several important facts are disclosed. In the majority of instances (19) these patients were first seen by the hospital staff after admission on the surgical wards. Hence, their chances were lessened, both medically and surgically, by one physician. Consequently, little or no knowledge either of the previous control or the cooperativeness of the patient were available, and in the final analysis these two factors are the most essential ones in the care of any diabetic case. The lack of these is obviously the downfall of most persons with diabetes. The obligation of the physician in educating his patient about his disease must be assumed. Unfortunately, this assumption is not always justified.

Aside from the problem of diabetic infection and gangrene, it must not be forgotten that diabetes is a systemic disease and must be

treated as such. The diabetic patient is afflicted with numerous other associated maladies. Coronary sclerosis develops from five to eight years earlier in diabetic than in non-diabetic patients. Weight loss, though only an indicator, has far more reaching significance. Ketosis, lowered resistance, avitaminosis, etc., frequently present themselves at the bedside. All these factors are of extreme importance to the surgeon, inasmuch as the operative risk is directly proportionate to their severity if present.

How much the financial or sociologic status reflects itself in the patients is difficult to say. One thing is certain, however; the majority of these patients were too poor to be strictly private cases and too rich to be classed as indigent. This in itself may be a factor in the present survey.

A more detailed analysis of some of the statistics in this limited series is as follows: number of cases—21; deaths—8, 38 per cent;

sex—15 women, 6 men; average age—60 years for all cases; average duration of known diabetes—six years and three months, a range of none to nineteen years; condition of diabetic patients on admission—uncontrolled in 13 cases and controlled in 8 cases.

The majority of cases, however, were well controlled on diet and regular insulin preoperatively. In cases in which emergency amputation was done because of the extent and type of the presenting lesion, preoperative infusion of saline and glucose buffered with insulin were given. Protamine insulin was not used in any case where either acute infection or postoperative course contraindicated it. In all surviving cases, the diabetes showed marked improvement postoperatively. In only 1 case could prolonged lack of control of the diabetes be attributed as the major cause of death. In several others we noted the associated maladies found in diabetic patients—namely, heart disease and cachexia, together with intercurrent pulmonary infections, which at the best are difficult to cope with in elderly individuals let alone in diabetic patients.

Interesting are the 2 cases of amputations of the toes which responded to extremely conservative measures. As a matter of fact, one of these had a readmission for a similar procedure on the other foot. I understand that now, five years later, his general and peripheral vascular conditions are under good control.

DIABETIC GANGRENE

Report of Cases Treated at Roosevelt Hospital, Five-Year Period, 1935 to 1939, Inclusive

GRANT P. PENNOYER, M.D., New York City

THE victim of diabetic gangrene is struggling against three distinct disease processes. Each one is present in varying degree and each accentuates the other two. The clinical picture and prognosis vary greatly with the severity of each process, and successful treatment depends on the control of each process.

First, there is the diabetes that may be so slight as not to manifest itself except in the presence of infection or so severe that its control becomes exceedingly difficult despite huge doses of insulin and accurate control of all intake.

Summary

Uncooperativeness and lack of control of their diabetes were the pitfalls of the majority of patients admitted to Lenox Hill Hospital for gangrene or infections of the lower extremities. Nail-cutting and self-treatment of a paronychia of the hand were responsible for 2 cases of osteomyelitis necessitating finger amputations. No such history of trauma was given in the other 19 cases. However, despite this, foot hygiene should be as much a part of the education of the diabetic individual as diet, insulin, etc., and in this the physician is probably more at fault than with regard to instructions about diet and insulin. Once gangrene has developed, conservative measures should be carried out to the fullest extent, using as a criterion the adequacy of the peripheral circulation. On the other hand, infection, when present, knows no barriers. Chemotherapy, though not used in these cases, is a great aid when used with discretion, bearing in mind that it is not a cure-all and that surgery must be done in certain cases before the infection becomes too widespread. When surgery is contemplated in these cases it usually is not the adequacy of the circulation that determines the site of amputation but rather the extent of the infection. These are surgical problems and should be treated as such. The mortality in these cases is not so much related to the local lesion as it is to the fact that we have a patient who is sick, generally.

Second, there is infection that may be minimal as in the case of the slow, dry, well-demarcated gangrene of the toes or so severe that despite adequate blood supply there is rapid wholesale destruction of tissue similar to gas gangrene and life is endangered by overwhelming sepsis. Third, there is the arterial occlusion, which varies in degree from slight to complete obstruction. It is always a local manifestation of a generalized arteriosclerosis which frequently has already affected the central nervous system, kidneys, eyes, and every other organ of the body, giving the patient a rather hopeless outlook for recovery of his

health before one considers the problem of the gangrene.

With three such variables present in every case, superimposed on the great difference in individuals, it is quite obvious that the clinical entity known as diabetic gangrene is going to have infinite variations and that no fixed rules of treatment are possible. Every case has to be considered strictly as an individual problem; each factor has to be evaluated and treated. That indefinable priceless gift, known as surgical judgment and based on experience and not found in the hospital laboratories or instruments of precision, must be used to the utmost.

First, there is the diabetes the rapid control of which is essential. At Roosevelt Hospital this problem is handled by consultation with one of the Medical Staff interested in diabetes and working in the Diabetic Clinic. Ideally, this man makes rounds with the surgeon, but this is a perfection that is not always possible and consultation notes are often used. Great credit is due the House Staff, for when the medical consultant arrives he frequently has little to suggest beyond what has already been done. These industrious men, in order to bring quickly a rampant diabetes under control, will frequently be up long hours in the night administering insulin according to repeated blood and urine analyses. There is no question that the control of the hyperglycemia is the first step in the treatment of diabetic gangrene.

The second problem is the arrest of the infection. The general surgical principles of the control of infection apply, such as absolute rest, wet dressings, adequate drainage, and chemotherapy. If severe spreading infection as evidenced by local signs, fever, and leukocytosis is superimposed on advanced arterial occlusion and uncontrolled diabetes, the problem is at its worst and prompt midhigh amputation is often necessary to save life. Such an infection causing a wet undemarcated gangrene in the presence of a violent diabetes, even without advanced arterial occlusion, may require emergency guillotine operation as a life-saving procedure, but in this group one should be able to save the knee joint. Such cases without advanced arterial occlusion may be extremely ill at the time, but they offer the best prognosis for future life and usefulness.

The third factor is the arterial occlusion. It is the dominant etiology of dry demarcated gangrene and is the factor over which we have the least control. In my experience, no medications, injections, surgical operation on the

sympathetic nerves, physical therapy, etc., are of any material value in increasing the arterial capacity of these patients. All one can do is to institute measures that allow the patient to conserve, for the nutrition of his tissues and control of infection, all the arterial supply of the foot.

If the patient's life is not threatened by infection and the gangrene will localize, I am very much on the side of conservative treatment. Those cases with advanced arterial disease are discouraging at best, for the process is almost always just one expression of an extensive generalized arteriosclerosis. If one extremity is amputated, it is frequently only a short time before trouble starts in the other leg or the patient is stricken with some other arterial accident in his heart, brain, kidneys, or eyes. After a major amputation is done they are frequently too feeble to use an artificial limb, and the patient becomes an invalid for the rest of his life. I have had many patients with diabetic gangrene, where the arterial occlusion was the dominant factor, who have healed after weeks or perhaps even months of treatment with only the loss of toes or parts of toes and have regained a considerable degree of activity and usefulness. Their life expectancy is short at best. A major amputation frequently completely discourages the patient, so he becomes a chronic invalid. To illustrate this, there were 3 cases that had previously lost toes on one side and, finally, required major amputation on the opposite side. All 3 had done fairly well until the amputation, after which they were all incapacitated. The argument that if the circulation of an extremity is so poor that gangrene has occurred the extremity will not heal and, if it does, the limb will be useless can easily be refuted by case reports. Many surgeons still recommend midhigh amputation in cases of gangrene confined to the toes. I consider this malpractice.

In the conservative treatment three principles are applied. The first is absolute rest. I quite realize that it is not desirable to keep elderly people in bed for long periods of time, but it is necessary for success in the conservative treatment of diabetic gangrene due to arterial obstruction. After the infection and diabetes have been controlled, healing depends on the circulation. Active muscles require many times more blood circulation than the basic nutrition of the tissues and wound healing. This is easily demonstrated by basal metabolism studies. Active use of the muscles of the lower extremity uses up most of the available blood supply before it reaches the

feet where the amount is already so reduced that the basic nutrition of the tissues is in danger. If a house has poor water pipes, one cannot get water on the top floor if the cellar outlets are wide open. Even Buerger's exercises, when they have to be done by the patient's own muscular energy, may do more harm than good. Muscular rest is essential to conserve all available blood supply for the feet.

Gravity has an appreciable effect on the circulation, and position is of some importance. If the ordinary bed is used, the head should be elevated so that the feet are considerably below heart level. The increase of venous pressure, as well as the dependent flow of the blood may be of some help. The Sanders bed is physiologically sound for the same reason.

The third principle in the conservative treatment of diabetic gangrene is the thermostatic control of the temperature of the involved extremity to about 92 F. This is the approximate temperature of the normal extremity. The feet in a case of advanced arterial occlusion are somewhat like a cold-blooded animal in that they assume the temperature of the environment and regulate their metabolism to that temperature. Keeping the temperature normal is simple and greatly contributes to the comfort and healing of these patients. If the temperature is higher than 92 F., the local metabolism is increased and there is an increase in the discrepancy between tissue demand and blood supply. Even a rise of 1 or 2 degrees may start a burning pain in the leg that has previously been perfectly comfortable. A diminution of the temperature below 90 F. brings in some element of vasospasm as the direct result of chilling and, likewise, leads to discomfort. It is not at all uncommon to have patients with gangrene who have been unable to sleep because of excessive pain, despite large doses of strong sedatives, rest comfortably without medication as soon as the thermostatic control to 92 F. in the bed cradle is instituted. I have seen this simple device straighten out many elderly people who were formerly completely exhausted by pain and depressed by excessive sedative medication. No hot-water bags, heating pads, baking machines, or any form of heat, even bed cradles with electric lights (unless thermostatically controlled) should ever be employed on these patients. In addition to causing pain, the danger of burning is great. The cutaneous sensation in severe cases is dull or completely absent, so that the patient has no warning of damage. In addition, there is no circulation to conduct away the heat. An intact circu-

lation will keep the skin cool in the presence of heat just as it will tend to keep it warm in the presence of cold. On this account, a temperature that may feel quite comfortable to the skin of the face may cause a severe burn if the circulation is arrested. In addition to the danger of burning, the heat may precipitate a gangrenous process by increasing the discrepancy between the blood demand and the blood supply.

In treating these cases conservatively it is imperative for success that one man, experienced and interested in this work, follow the case and do all of the surgery and dressings himself. In the presence of gangrene any operation is dangerous except simple incision for drainage proximal to the productive inflammatory area of the demarcation zone. This zone, like granulation tissue, is more resistant to infection than freshly incised tissues. It is safer not to perform any local amputation, sequestrectomy, removal of sloughs, etc., until the separation of the living and dead tissue is almost complete. This may take many weeks, but the gangrenous tissues can then be eased off through the demarcation zone without anesthetic and without danger. No other surgery is performed except simple incisions for drainage when necessary. Sloughs should be allowed to separate spontaneously. If a clean granulating base can be obtained, small full thickness skin grafts can be tried.

If amputation is essential, careful studies should be made of the circulation to determine the level. The pulse, the oscillometer, skin temperature reading, and the rate of absorption of saline wheals, are all useful. At Roosevelt Hospital the only question is whether to amputate above or below the knee. The foot, ankle, lower leg, and amputations, like Gritti-Stokes designed for end weight bearing, have been discarded. A good knee joint with a few inches of tibia permits the use of as simple and as effective a prosthesis as any amputation below this level and, likewise, a mid thigh amputation gives as good a result as any stump without the knee joint. It is extremely desirable to save the knee joint, and this can be done in many cases where the practice previously has been almost routinely a mid thigh amputation to insure sufficient circulation for proper wound healing. The follow-up of mid thigh amputation cases is extremely poor for return of activity.

Technic

The technic of the operation is all important for success. We are dealing with poorly nour-

TABLE 1.—CASES OF DIABETIC GANGRENE, ROOSEVELT HOSPITAL, 1935 TO 1939, INCLUSIVE

Total Number of Cases = 40	
Men = 19	
Women = 21	
<i>Age Distribution</i>	
40-50 years	8
50-60 years	13
60-70 years	16
70-80 years	3
<i>Religious Distribution</i>	
Jews	6
Protestants	12
Catholics	16
Not stated	6
<i>Race Distribution</i>	
Negro	7
White	33
No. of cases who knew they had diabetes before admission = 19	
No. of cases who did not know they had diabetes before admission = 21	
No. of cases with diabetes controlled on admission = 5	
No. of cases with diabetes not controlled on admission = 32	
No. of cases with diabetes partially controlled on admission = 3	
<i>Days in Hospital</i>	
Longest time	240
Shortest time	11
Average time	67
No. of cases showing calcification in arteries by x-ray = 33	
<i>Weight</i>	
Greatest	220
Lowest	115
Average	156
<i>Initiating Cause</i>	
Cutting callus or corn	9
Contusion-stubbing toe, etc.	6
Infected corn or callus	3
Burns by baking, hot-water bag, or wet dressings, etc.	3
Burn by corn plasters	3
Tight or new shoes	2
Pressure around diseased nail	2
Athletes foot between toes	2
Exposure to cold	1
Stepped on tack	1
History not given	8
<i>Amputations*</i>	
Thigh	12
Upper leg	6
Toes or parts of toes	22
<i>Anesthesia</i>	
Spinal	19
Gas-oxygen ether	4
Nitrous oxide	2
Drop ether	1
Cyclopropane	1

* Three cases with thigh amputations and 2 with leg amputations had previously lost toes or parts of toes on opposite side.

ished tissues with infection in the lymphatics. Damaged or devitalized tissue is an invitation for infection, necrosis, and disaster. Undoubtedly, the least traumatizing operation to the tissues would be a straight guillotine with a sharp amputation knife. Because of the difficulty of handling the exposed bone and muscle that results we use a modified guillotine. I am opposed to any operation using skin flaps, as the first sign of trouble is usually along the edge of a skin

flap. A circular incision obviates this difficulty. This results in a scar over the end of the stump, but in a prosthesis not using end weight bearing this does no harm. The circular incision is carried right down through the skin, fat, and deep fascia with one continuous firm stroke of a sharp scalpel about 6 inches below the level selected for the division of the bone. Hacking of the tissues with repeated small strokes of the knife, dull instruments, and careless use of hemostats all cause unnecessary tissue damage. The principal nutrient arteries of the skin run in the deep layer of the superficial fascia and no skin flap should be raised from the deep fascia. All unnecessary trauma must be avoided, such as grasping the skin with forceps, rough blunt dissection, towel clips, etc. The muscles are divided straight across by sharp bold dissection, preferably with an amputation knife, about 3 inches above the skin incision level and the bone is divided about 3 inches higher. No tourniquet is applied because of the possibility of arterial damage and because it is important to know just how much arterial bleeding there is. If one knows the anatomy, the main vessels can be recognized and clamped immediately on division. If the amputation is through the tibia, the anterior subcutaneous border must be beveled sharply to avoid skin pressure at this point. The fibula should be shorter than the tibia for the same reason. It is not necessary to inject the nerve endings with alcohol, but the large nerves should be identified, stripped back, and divided as high as possible so that they will be well above the scar. With this simple precaution we have had no amputation neuromas or painful stumps. It is of paramount importance that not a single suture be placed in the muscle, fascia, or subcutaneous tissue. None is necessary. These muscles atrophy, as their action was on the joint below the one which has been amputated. Sutures exert pressure and interfere with the circulation. This process is further aggravated by postoperative edema. They also tend to close the fascial layers that should be left wide open for drainage. The loose skin is drawn together by 3 or 4 skin clips or sutures fully 1 to 2 inches apart. The skin edges should be long enough to come together almost naturally. This allows free drainage without the use of any irritating foreign body, such as rubber tissue, etc. The closure of the circular incision will leave a corner on each end of the wound. This is no cause for worry, as experience shows that the skin will soon conform to the shape of the stump and the end cosmetic result will be quite satisfactory. This operation provides almost as little tissue injury and as free drainage as a true guillotine operation and at the same time avoids the difficulties associated with exposed muscle and bone. The whole procedure can be done in less than twenty minutes, and there is a minimum of shock. The absence of sutures and tissue insult minimizes the postoperative pain. Many

of these cases drain a considerable amount of bloody serum for a few days and then heal up practically by primary union.

In the last six years we have had at Roosevelt Hospital the Vascular Clinic for the study and follow-up of cases of peripheral arterial occlusion, as well as an older Diabetic Clinic. These two clinics work together, and a glance at their statistics shows the great advantage of this arrangement. Not a single patient who has been treated in both these clinics before the onset of gangrene has come to a major surgical amputation. Prevention is by far the most important treatment of diabetic gangrene. The early recognition of the arterial disease and the control of the diabetes are the most valuable contributions of these clinics, for they permit the necessary measures to avoid trouble. After all, diabetic gangrene is an end result of these other disease processes and is not a primary condition. Simple measures, such as cleanliness, avoidance of all trauma, proper care of the feet and nails, orthopaedic shoes, abstinence from tobacco, etc., accomplish wonders. Those with amputations are a great object lesson to the others and frequently impress the patients with the importance of following instructions more than any other method. The Clinic also allows more accurate and complete follow-up of these patients.

Tables 1 and 2 summarize our experience and results of all the cases of diabetic gangrene (40) admitted to Roosevelt Hospital in the five-year period from 1935 to 1939, inclusive.

Discussion

Dr. Madge C. L. McGuinness, *New York City*—Twenty-four cases of peripheral vascular disease in diabetics were treated by physical therapy, representing one-fourth of all the peripheral vascular disease cases in the hospital. In the clinic, 22 cases of a total of 92 were likewise treated.

Of these, only those in the third and fourth stages will be discussed. These had ulceration, infection, osteomyelitis, and gangrene. All had, in addition to the diabetes, inadequate circulation, vasospasm, and general debility.

Three cases were scheduled for mid thigh amputation but fortunately escaped and walked out on their own feet. Two had incision and drainage, and 3 others had incision and drainage and osteotomy.

Three others who came to mid thigh amputation were advanced in years and in poor condition but came through the operation and are alive and declare themselves well. One other at the age of 72 escaped amputation, had incision and drainage with osteotomy, left the hospital,

TABLE 2.—RESULTS OF 40 CASES OF DIABETIC GANGRENE, ROOSEVELT HOSPITAL, 1935 TO 1939, INCLUSIVE

Total No. of Deaths in Hospital = 4 (10 per cent)	
1.	Man, aged 59, mild diabetic, advanced arterial occlusion. Previous hospital admissions. Had lost 2 toes. Mid thigh amputation after thirty days conservative treatment. Flap operation—rubber drains. Died suddenly twenty-four hours postoperative. Coronary occlusion?
2.	Woman, aged 67, severe diabetic, advanced arterial occlusion. Rapidly spreading infection and wet gangrene. Thigh amputation thirty-six hours after admission. Flap operation—rubber drains. Died on eighth day from infection.
3.	Man, aged 68, mild diabetic, advanced arterial occlusion. Had lost 2 toes already on opposite side. Mid thigh amputation after two months' conservative treatment. Flap operation—rubber drains. Wound failed to heal. Chronic infection; bed sores; became weaker; finally died twenty-one days postoperative with terminal pneumonia.
4.	Man, aged 62, severe diabetic with advanced arterial occlusion. Conservative treatment five weeks; upper leg amputation. Flap type—rubber drains. Died of infection fourth day postoperative. Temperature, 108 F.

Late Results of Thigh Amputations*

Total Number = 12

Died in hospital	3
Known to be dead since leaving hospital	5
Arteriosclerotic heart disease	1
Carcinoma of stomach	1
Arteriosclerotic psychosis	1
Gangrene and pneumonia	1
Cause unknown	1
Chronic invalids without prosthesis	3
Lost to recall	1

Late Results of Leg Amputations Below the Knee†

Total Number = 6

Died in the hospital from infection	1
Wearing prosthesis successfully (2 over 70 years old)	4
Chronic invalid without prosthesis yet (1 year)	1

Late Results of Cases Losing Only Toes or Parts of Toes

Total Number = 22

Hospital deaths	0
Foot healed and patient doing at least light work	10
Foot healed but unable to be active enough for any work	3
Foot healed but an invalid from other causes	2
Foot still unhealed	1
Died of coronary heart disease	1
Died in another hospital from gangrene	1
Lost to recall	4

* Not one successful result. Of course, these are the worst of the 40 cases. All of the hospital deaths had flap operations and rubber drains instead of modified guillotine.

† This illustrates the importance of conserving the knee joint if possible, but the fatal case might have been saved by thigh amputation.

but died months later of cerebral embolism. This prima donna was described as a "hellion" and so came rightly by her ailment and demise.

In addition to medical and surgical measures, the physical procedures used were rest, warm saline soaks and compresses for infections, careful drying with gauze between the toes with and without aristol, dry heat, the cradle with the light bulb set at 92 F. continuously. Invented originally by Dr. Isaac Starr, of Philadelphia, improved by Bierman, of New York, a special cradle was devised and perfected by Valverde; this is by far the greatest single help in these conditions. Intermittent venous occlusion, embodying Bier's venous hyperemia and Lewis' reactive arterial hyperemia with gentle pressure and a soft cuff, is applied for hours or continu-

ously; the pavex is applied rarely, when not contraindicated. Iontophoresis helped to heal ulcers and lessen pain; we prefer histamine because it is cheaper and less general in effect. For reflex dilatation we gave infrared and diathermy, long or short wave, to the abdomen in some severe cases.

The remainder of the cases that were adequately treated in time—as soon as any complication set in—are continuing to attend the office, hospital, or clinic. Under frequent supervision, they need no surgical assistance at present. Of close on 100 cases treated, none has come to amputation.

The Peripheral Vascular Disease Clinic, set up several years ago, consists of a medical chief, associates particularly interested in peripheral vascular diseases, the chief in physical medicine, and a surgeon. We place the surgeon last because we hope we won't be needing his services except when the others fail. He is our anchor to windward in desperate cases that we hope will soon be rare.

Before the clinic was established, cases were treated in the department of physical medicine, and the following routine was worked out with the cooperation of Dr. Anna Samuelson, who has faithfully taken care of the clinic cases, examined and helped with the medical care of hospital cases, checked records, and examined frequently these cases reported here and other cases with allied conditions. Skin temperatures, oscillographic readings, posterior tibial nerve blocks, and various tests were undertaken and careful records kept.

I. For purposes of treatment, cases were divided into six classes, as follows: (1) minor infection with no impairment of circulation; (2) minor infection plus impairment of circulation; (3) moderate infection, no impairment; (4) moderate infection, organic lesions; (5) extensive infection, no impairment; (6) extensive infection, organic lesions—(a) peripheral vascular disease only or, in addition, (b) cardiorenal vascular disease.

II. The patients were likewise divided into 2 groups—ambulatory or bedridden.

III. Treatment consisted of: (1) control of diabetes by diet and insulin, most important; (2) rest; (3) elevation.

IV. Warmth: (a) proper woolen clothes and stockings, shoes, blankets, etc.; (b) dry heat—(1) the vasculator, a cradle with a thermostatically controlled light unit set at 92 F. for continuous environmental temperature and (2) short-wave diathermy through the abdomen and pelvis for reflex dilatation; (c) wet heat, saline—(1) foot soaks for cleansing and drainage and (2) warm compresses for drainage.

V. Mild antiseptics as (a) potassium permanganate or plain saline foot soaks, (b) tincture of green soap to loosen detritus, (c) carefully dried, etc.

VI. Inunctions, as lanolin, to keep skin soft.

VII. Proper fitting footwear to prevent corns and calluses.

VIII. Correction of orthopaedic defects—posture, body mechanics, etc.

IX. Care of corns and calluses (hygiene of feet) by physicians.

X. Medications: (a) acetylsalicylic acid, 5 grains three times a day, for vasodilatation; (b) phenobarbital, $\frac{1}{2}$ or $\frac{1}{4}$ grain three times a day, for sedation; (c) whiskey, wine, beer, once or twice daily; (d) calcium gluconate, 5 grains three times a day; (e) saline by mouth; (f) pancreatic tissue extract injections, 2 or 3 cc. three times weekly; (g) vitamins A, B, C, and D; (h) iontophoresis—histamine or acetyl-beta-choline for peripheral dilatation, of which the former is cheaper and has less general effect.

Mechanical aids include: (a) the vasculator (cradle with light bulb at 92 F. continuously); (b) intermittent venous occlusion which exerts a gentle pressure with an air cuff at timed intervals for several hours daily in chronic cases or continuously in acute cases; (c) the pavex is rarely applied, because infection or too great pressure from the cuff or from suction contraindicates its use; (d) iontophoresis, histamine, or acetyl-beta-choline; (e) infrared or diathermy, long or short wave, to the abdomen for reflex dilatation.

Smoking is absolutely forbidden.

Surgery as indicated: (a) incision and drainage; (b) sequestrotomy; (c) amputation of toe(s), foot, knee, or mid thigh.

Exercises, Buerger's and modifications of them, only when permissible.

Prevention

To watch these patients with peripheral vascular disease and listen to their stories, one is overwhelmed with a desire to do something to prevent augmentation of this ever increasing army of sufferers. It is a problem for all medical practitioners and especially for the general medical man who, as usual, sees all the headaches first and must do something for them before they progress to an early invalidism.

Diabetes is always a potential hazard and should be controlled at every cost. Diet is, of course, the first consideration, with or without insulin.

Rest is the next greatest essential and cannot be too greatly stressed. Relaxation comes next to mind. Worry, tension, and fatigue are much to be deprecated; we must forget them in our efforts to be well.

Warmth is also one of the first thoughts in peripheral vascular disease—warm clothing, warm socks, warm stockings, warm bedclothes, warm rooms. Whatever you may be able to do in this line with the miserable men who take to wool socks and mittens without a murmur, I wish you joy trying to get the suffering sisters to adopt anything but two-thread or nylon

stockings, which they solemnly assure you they have *always* worn.

Those "economic royalists" in the upper brackets, whose creditors still permit them to seek the sun in Florida, California, and the Southwest, can help themselves to an equable climate, with no weather, to the benefit of their circulation with no further ado, or, they can hug the firesides in their air-conditioned homes and laugh at wintry blasts.

Their brethren in the lowest brackets, the well-publicized 33 $\frac{1}{3}$ per cent engaged in the questionable process of shadow-living, can hug *their stoves* and let the mailman expose *his* extremities to the biting blast that plays such havoc with cramped blood vessels until such times as warm and sunny days tempt them forth to amusement.

But for those who must bear the burden of the workaday world, some means must be found to prevent this miserable diseased state that is threatening to fill our hospitals and homes with

ailing invalids losing the power to stand or walk.

For these, carefully regulated, properly conditioned rooms with heat, humidity, and no draughts must be provided in hospitals, convalescent homes, hotels, and apartments for hours at a time or continuously in severe weather.

It is useless to argue about warmth or order it if we permit these people to sit for hours in cold, draughty corridors in clinics awaiting attention. They should be instructed to stay home in inclement weather and to be out only on sunny days and between the hours of 10:00 A.M. and 1:00 P.M.

With proper care of the feet, all foot ailments corrected by physicians who are not above caring for corns, calluses, ingrown toe nails, etc., we will have less need for amputations and less fear of fatal results and this disease also will take its place with the others that are being overcome in the good fight waged by medicine in every field.

INFECTION AND GANGRENE OF THE LOWER EXTREMITY IN DIABETES MELLITUS

HERBERT CONWAY, M.D., and STEPHEN C. MEIGHER, M.D., New York City

THE management of amputation of an extremity has demanded the attention of those interested in surgery since there have been operations on humans. Amputation in ancient periods was accomplished by nature, without surgical intervention. Amputation by surgery to accelerate the rate of healing and the usefulness of the remaining stump undoubtedly was practiced in those ancient periods of which there exists no accurate surgical record. As a lifesaving procedure, amputation is heralded with genuine appreciation. Because this operative procedure represents an admission of failure to cure an extremity of its disease, it is looked upon with disfavor. In war and in peace, amputation of an extremity presents itself as a method to be avoided if possible, but it is one that must be carried out with strict attention to the many details involved to the end that more men may live usefully and happily for a longer period of time. As an important portion of the surgery of geriatrics, thrust upon the surgical world by the fact that today there is an increased percentage of the population living in the advanced age decades, rightfully, the surgery of amputations is receiving emphasis.

This presentation is limited to a statistical

study of a group of patients of one type encountered in civil surgery—namely, the group exhibiting infection and gangrene of the lower extremity in association with diabetes. It is a commentary on present-day surgery that local measures to prevent the development of gangrene have not been expanded and practiced generally to keep abreast of the splendid forward developments in the fields of endocrine therapy and chemotherapy, developments now known to be indispensable in the management of the complications exhibited by the diabetic patient. This analysis of experiences with gangrene of the lower extremity in diabetic patients on the Surgical Service of the New York Hospital is presented in conjunction with similar reports from three other institutions of New York City—St. Luke's, Roosevelt, and Lenox Hill hospitals. It is a pleasure to make this presentation because it affords an opportunity to analyze critically the results that have been obtained and to compare them with those of the other groups of cases.

The data that are presented concern the clinical course of 46 diabetic patients suffering from gangrene of the lower extremity. These were managed on the Surgical Service of the New York Hospital between September, 1932, and March, 1940. In that same period of time 774 diabetic inpatients were treated on

the Medical and Surgical services while 1,791 diabetic outpatients were treated in the dispensary. Although not all of the 46 cases had their prehospital treatment in the dispensary of the New York Hospital, the relation between the two figures 46 and 1,791 gives some idea of the probability of occurrence of gangrene in diabetic patients. This proportion is 1 to 40 or 2.5 per cent. Of the patients admitted to the hospital, those with gangrene of the lower extremity made up 5.9 per cent or, roughly, 1 in 16.

Information concerning age, sex, and religion of the 46 patients is as follows:

Age Group	Number of Patients
40-50	4
50-60	15
60-70	22
70-80	4
80-90	1
Total	46

The average age of 62.1 years is somewhat higher than that reported by others who have called attention to the fact that gangrene of the extremity occurs more frequently in the younger age decades in the diabetic than in nondiabetic subjects. It would appear from this analysis that the local condition of gangrene of the leg in diabetes occurs in advanced adult life chiefly between the ages of 50 and 70 years, since 37 of 46 patients were within these limits at the onset of their local condition.

There were 23 men and 23 women, of which 10 were Jewish (21.7 per cent), 21 were Catholic (45.6 per cent), and 15 Protestant (32.6 per cent). All of the 46 patients in this series were Caucasian.

An interesting fact brought out in the study of the histories of the cases is that 25, or 56.5 per cent, had passed from active physical life to inactivity in the period of one to six months preceding admission to the hospital for the care of the leg. Twenty patients, or 43 per cent, gave the history that the local condition came on while they were engaged in ordinary healthful activity. The importance of this change from active to inactive life is one that cannot be minimized. It suggests at once that those diabetic patients who have any complaints referable to the peripheral vascular bed should substitute peripheral vascular exercises for their usual activities during periods of relative quiet. Unfortunately, as will be brought out later, many of these patients have no peripheral vascular

symptoms until the onset of the local condition that leads to the development of gangrene of the extremity. Then, too, the increased hazard of complete daily activity with its inevitable trauma to the feet must be considered as a state predisposing to the development of gangrene, especially in the aged who may be unmindful of diminished peripheral perception of touch, heat and cold.

In 22, or 47.8 per cent, of the cases the records show significant loss in weight in the period of one to twelve months preceding admission to the hospital. This loss of weight ranged from 10 pounds in 1 case to 85 pounds in another; in 17 cases the loss varied from 20 to 85 pounds; in 12 cases there was a minimum loss of 40 pounds. In none of the 46 cases was there a significant gain in weight in the twelve months preceding admission to the hospital because of impending gangrene. The average loss of weight in the 22 patients was 62.1 pounds. This positive occurrence in almost half of the cases suggests the possibility of an effect on the peripheral vascular bed and on the peripheral tissues produced by a rapidly changing metabolism. In this limited presentation this phase of the alteration of the metabolism cannot be discussed adequately.

Knowledge and Control of Diabetes

Of the 46 cases: 9, or 19.5 per cent, had no knowledge that they had diabetes; 37, or 80.4 per cent, knew they had diabetes; 19, or 41.3 per cent, had uncontrolled diabetes on admission to the Surgical Service; 27, or 58.6 per cent, had controlled diabetes on admission to the Surgical Service; and 23, or 50 per cent, had been treated in the Diabetic Clinic of the New York Hospital.

This last figure gives a new basis for the calculation of the frequency of gangrene in the patient with diabetes. These 23 patients were under treatment in the Diabetic Clinic of the New York Hospital during a period of time in which a total of 1,791 patients were treated in that clinic. This represents the occurrence of gangrene at the rate of 1.3 per cent. While it is probable that a few other outpatients in this group may have developed gangrene or serious infection of the leg for which they were treated in another institution, the value probably is a more accurate one than that listed above at 2.5 per cent.

Of the 37 cases in which the patient knew of his disease, 11 had been treated by diet alone, 14 by diet and insulin, and 5 by diet and protamine zinc insulin, while 7 had neglected to adhere to a prescribed regimen of diet and

TABLE 1—PATHOLOGIC CONDITION OF FOOT

Area Involved	Gan- grene 1	Gan- grene and Ulcer or Sinus 6	Gan- grene and Cellu- litis 4	Gan- grene and Ulcer or Sinus and Cellu- litis 18	Gan- grene and Ulcer or Sinus and Abs- cess 5	Gan- grene and Ulcer or Lymph- an- gitis 2	Gan- grene Due to Sudden Vas- cular Oc- clusion 5	Inter- digital Fissure and Cellu- litis and Lymph- an- gitis 4	Total 11
1st toe (great)		1	1	1					
1st and 2nd toes		1		1					
1st, 2nd, and 3rd toes				1					
2nd toe				1					
2nd and 3rd toes					1				
3rd toe		1		1				1	
3rd and 4th toes				1					
4th toe				4					
4th and 5th toes				2					
2nd, 3rd, 4th, and 5th toes		1					2		
5th toe				1					
Plantar area								3	
Heel	1	1		2	1				3
Foot		1	3						7
Leg							2		
Both legs							1		
Totals	2	6	4	18	5	2	5	4	46

insulin. Therefore, it is seen that 16, or 34.8 per cent, of the patients (9 who had no knowledge of their disease plus 7 who neglected to adhere to a prescribed regimen) developed gangrene while the underlying metabolic disease was in a state of neglect. The fact that 23 patients, half of the entire group, developed gangrene at a time when their diabetic state had adequate supervision and control indicates that regulation of the diabetes is not sufficient to prevent the development of serious infection and gangrene. Obviously, preventive peripheral vascular care is necessary. This will be referred to later. It is a commentary on the state of the public health that 19.5 per cent of the patients in this group of cases are unaware of their diabetes until the development of local conditions leading to gangrene and that 80.4 per cent develop this serious condition despite the knowledge of the disease.

The duration of known diabetes in 37 patients averaged 8.1 years. The longest known duration of diabetes was 35 years. This was in the case of a 68-year-old man whose history revealed that 3 siblings had died of diabetes or of its complications.

General Condition of the Patient

At the time of admission to the hospital 8, or 17.3 per cent, of these patients were febrile and acutely ill. Thirty-three, or 71.7 per cent, were considered to be in poor condition because of generalized arteriosclerosis and accompanying cardiovascular-renal disease. Four, or 8 per cent, were in fairly good condition. Their diagnoses on admission are as follows:

	Case
Good general condition	4
Good general condition and latent syphilis	1
Fever and leukocytosis	1
Fever, leukocytosis, and acidosis	1
Fever, leukocytosis, acidosis, and disorientation	1
Fever, leukocytosis, and pulmonary congestion	1
Fever, leukocytosis, and arteriosclerotic heart disease with hypertrophy	1
Fever, leukocytosis, arteriosclerosis, and cataracts	1
Fever, leukocytosis, arteriosclerosis, and actinomycosis	1
Fever, leukocytosis, arteriosclerosis, and perirectal abscess	1 8
Generalized arteriosclerosis	12
Generalized arteriosclerosis and prostatic hypertrophy	1
Generalized arteriosclerosis and cataracts	1
Generalized arteriosclerosis, cataracts, and prostatic hypertrophy	1
Generalized arteriosclerosis and hypertension	2
Generalized arteriosclerosis, hypertension, and arteriosclerotic heart disease	9
Generalized arteriosclerosis, hypertension, and arteriosclerotic heart disease and syphilis	1
Generalized arteriosclerosis and arteriosclerotic heart disease	5
Generalized arteriosclerosis, hepatic cirrhosis and syphilis	1 33
Total	46

TABLE 2.—TYPE OF INJURY PRECEDING THE DEVELOPMENT OF GANGRENE

	Cases
Trauma by the Patient	
Cutting of nails	3
Trimming of corns	3
Cutting of callus	1
Soaking of callus	1
Burned by hot soak	1
Blister opened	1
Rubbing of web space	1
Trauma from Poorly Fitted Shoes	11
Rubbing of shoe on great toe	2
Rubbing of shoe on corns	1
Rubbing of shoe on dorsum of foot	3
Ulcer on dorsum of foot	1
Other	7
Popliteal embolus	1
Popliteal thrombus	1
Ankle sprain followed by discoloration of foot	1
Frost bite	1
Interdigital fissure	1
Fissure in callus	3
Incision of callus by physician	1
Total	27

In 39 of the 46 cases there was glycosuria varying from 1 plus to 4 plus. Blood chemistry studies showed that all of the 46 had hyperglycemia at the time of admission to the hospital. Nine of 25 cases in which the carbon dioxide combining power of the blood was determined showed a value below normal. In 2 of 29 cases in which the urea of the blood was determined there was retention of urea.

Local Condition of the Foot

The condition of the affected foot at the time of admission to the hospital with regard to the type of pathologic change and its extent is shown in Table 1. It is seen that of the digits the great toe was most frequently the site of early gangrene. Gangrene in association with ulcer or sinus and advancing cellulitis was observed at the time of admission to the hospital in 18 cases—39.1 per cent of the entire group. In only 4 cases was the condition purely infectious with no evidence of gangrene at the time of admission to the hospital.

Etiology of the Local Condition

In 27 of the 46 cases a definite local trauma preceded the development of gangrene and infection. In 7 patients poorly fitted shoes were responsible; in 11 there was undue trauma to the soft parts in the cutting of corns or calluses by the patient himself. The individual injuries are listed in Table 2.

It is at once apparent that the most important phase of preventive peripheral vascular care is in the type of chiropody which the patient receives. Since in this group of cases 33 of the 46 cases manifested advanced generalized arteriosclerosis, it is probable that all of these had some impairment of peripheral sensation and of vision and prob-

ably had some ataxia. Conditions such as these render older people incapable of properly taking care of their own feet. Even in the absence of peripheral vascular symptoms it is my opinion that these diabetic patients should be given the advantage of skilled podiatry and advice as to the choice and fit of shoes. In the New York Hospital Outpatient Dispensary this care is given by the assistant resident surgeon in attendance at the Surgical Clinic. The relation of infection to gangrene in the diabetic subject who also has arteriosclerosis has never been completely clarified. Since 42 of the 46 patients in this series had gangrene of tissue when admitted to the hospital and since 27 of the 46 gave the history of an antecedent trauma that acted as an introitus for infection, it is reasonable to conclude that infection brings on gangrene in at least one-half of the cases. When first seen, it is often difficult to classify the pedal lesion in the diabetic patient as purely vascular or purely infectious in origin. I know of no better clinical classification than that offered by Williams and O'Kane.¹ From their recent publication the classification is herewith reproduced:

CLASSIFICATION OF THE LESIONS OF THE LOWER EXTREMITIES ASSOCIATED WITH DIABETES

Vascular ("3 plus vascular")	{	Marked arterial insufficiency
		Initial gangrene
		No infection
Mixed	{	Marked arterial insufficiency
		Initial gangrene
		Infection superimposed
	{	Moderate arterial insufficiency
		Initial infection
		Gangrene superimposed
Infectious ("4 plus infectious")	{	Slight arterial insufficiency
		Initial infection
		No gangrene
		No arterial insufficiency

Bacteriology of the Local Lesion

In 18 cases cultures were taken from the local lesion. Staphylococcus acting with or without another organism was the causative agent in 12 cases. Various strains of streptococci alone or with another organism were cultured from the affected area in 7 cases. Postoperatively, 3 patients developed gas gangrene, yet the gas bacillus was not cultured from the pedal lesions in these cases.

The bacteriologic reports are as follows:

	Cases
<i>Staphylococcus aureus hemolyticus</i>	5
<i>Staphylococcus aureus hemolyticus</i> and <i>Bacillus coli communis</i>	2
<i>Staphylococcus aureus</i> and nonhemolytic <i>Streptococcus albus</i>	1
<i>Staphylococcus aureus</i> and nonhemolytic <i>Streptococcus beta</i>	2
<i>Staphylococcus albus</i>	1
<i>Staphylococcus albus</i> and nonhemolytic <i>streptococcus</i>	1
<i>Beta-hemolytic streptococcus</i>	2
<i>Bacillus coli</i> and nonhemolytic strepto- coccus	1
<i>Bacillus proteus</i> and nonhemolytic strep- tococcus	1
<i>Bacillus proteus</i>	1
<i>Bacillus coli</i>	1
Total	18

Examination of the Peripheral Vascular Bed

In 25, or 54.3 per cent, of 46 cases the dorsalis pedis pulse was not palpable on the affected side.

In 31, or 67.6 per cent, of 46 cases the posterior tibial pulse was not palpable on the affected side.

In 9, or 19.5 per cent, of 46 cases the popliteal pulse was not palpable on the affected side.

Of 17 cases in which oscillometric readings were recorded, all, or 100 per cent, had markedly diminished or absent oscillometric readings.

Of 18 cases in which accurate surface temperature readings were recorded, the values were equal on the two sides in 1, were 2 to 6 degrees Centigrade lower on the affected side in 15, and were markedly elevated due to regional infection on the affected side in 2 cases.

X-rays of the affected extremity were taken in 35 cases. Fifteen of these showed osteomyelitis of the phalanges or metacarpals. De-calcification of bones was reported in 5 cases. All 35 showed calcification of the peripheral vessels in the affected extremity.

Physical Therapy and Preoperative Treatment

Preoperative physical therapy in the Peripheral Vascular Clinic included the following when indicated: Buerger-Allen exercises, passive vascular exercises,² alternating hot and cold foot baths, competent care of the nails by a physician in the dispensary, attention to

TABLE 3.—FORTY-SIX CASES OF GANGRENE OF THE LOWER EXTREMITY TREATED BY AMPUTATION (64 OPERATIONS)

Cases	Operations
10 cases	Single or multiple amputations of the toe (wound packed open) were done successfully, no reamputation being necessary
5 cases	Amputations of the toe were followed by lower thigh amputation
4 cases (8 operations)	Two successive amputations of the toe were followed by lower thigh amputation
4 cases	Secondary toe amputations were done, no higher amputation necessary
31 cases	Lower thigh amputations were done, 10 of these having been preceded by amputations of the toe or through the foot (1 case)
5 cases	Amputations through the tibia and fibula were successful
1 case	Amputation through the foot was followed by lower thigh amputation

the proper fitting of shoes, lanolin or cottonseed oil inunction to the feet, massage of the feet, high vitamin and high calcium diet, and intravenous sodium citrate solution.³ Patients were instructed to avoid trauma to the feet and to discontinue the use of tobacco. In this branch of the dispensary written instruction sheets are given to the patient. Of the 46 cases reported, only 3 had the advantage of complete preventive therapy in the Peripheral Vascular Clinic. This is explained by the facts that only 23 of the 46 cases of gangrene were under observation in the Diabetic Clinic and that of these 23 only 3 had any complaints with reference to their feet or legs prior to the onset of the local condition for which they were admitted to the hospital. Data are not available at the present time as to the total number of diabetic patients who were treated in the Peripheral Vascular Clinic during the seven and one-half years in which the 3 patients so treated were admitted to the hospital because of impending gangrene.

After admission to the hospital because of infection, gangrene, or impending gangrene, the preoperative therapy was outlined to meet the conditions in the individual case. Hot saline dressings were used in those cases that showed active moist infection superimposed on gangrene; Dakin's dressings were used for open ulceration; zinc peroxide packs were used for sinuses; a cradle with a thermostatically regulated incandescent bulb (Valstat Vasculator*) was used in cases of dry gangrene; and alternate suction and pressure and Sanders' oscillating bed⁴ were used in those cases in which the peripheral circulation seemed to be benefited and the infection was not activated by these mechanical aids. In 26 of 46 cases the heat cradle was persistently used in the preoperative period. Transfusion

* Supplied by Valverde Laboratories, New York City.

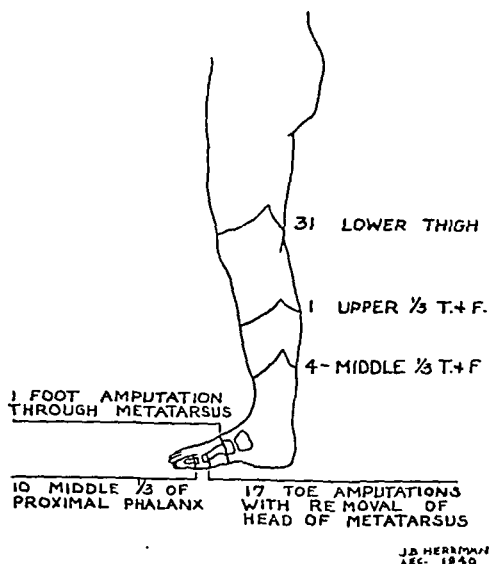


FIG. 1. Level of amputations in 64 operations on 46 patients.

of blood, intravenous saline, intravenous sodium citrate solution, and sulfanilamide were used as indicated in the particular patient in preparation for operation. All patients were treated for dehydration before operation.

Operative Treatment

Forty-six cases of gangrene of the lower extremity in diabetic subjects were treated by amputation as shown in Table 3. At the time of admission to the hospital there were only 4 cases in which the infectious process had not yet developed into gangrene. These 4, however, developed gangrene subsequently so that, making use of the classification referred to above, all 46 fall into the groups of purely vascular or of mixed vascular disturbance and infection. Simple incisions for drainage in this series of cases did not prevent the extension of gangrene. Here, the clinical peculiarities of infection in the extremity of the diabetic patient are strikingly brought out. Infection of the toe, whether staphylococci, streptococci, or of mixed organisms, demonstrates an especial tendency toward the development of regional thromboses with resultant gangrene. Wounds heal slowly. Tissues are nonresistant to infection. Areas of gangrene thus produced are characterized by massive subcutaneous sloughs of tissue with relatively little purulent exudation. Accumulation of pus, when formed, readily dissects along fascial planes to invade new tissue spaces higher in the extremity, gravity

undoubtedly being a factor. Because of this, the patient with an infection of the toes or foot is kept prone in bed with a small pillow under the ankle so that purulent material may drain out of the sinuses rather than be carried, by its own weight, cephalad through the adjacent tissue spaces of the foot and ankle. Grodinsky⁵ has demonstrated by dissection and injection methods eleven fascial spaces in the foot and leg. Reid⁶ has emphasized the importance of position in the management of infection of the foot in association with peripheral vascular disease. These observations, repeatedly emphasized by all clinicians, constitute the evidence that there is at work in the diabetic patient a factor that is not controlled by therapy with diet and insulin, a factor that militates against the patient's recovery and increases the hazard of operation. This situation demands especial attention in treating the surgical diabetic patient. In a few clinics this problem has been met by the establishment of a so-called "diabetic team" consisting of surgeons and physicians who, together, visit the surgical diabetic patients in the hospital daily. In the institution from which I am reporting no such team has been in operation, though the resident surgeons have called frequently and unhesitatingly on the interested members of the surgical and medical attending staffs in an effort to give to this group of patients their best chance of survival with physical efficiency. The major problems concern the level of amputation; the type of operation; whether to leave the wound open, to close it, to close it loosely, or to drain it; and the selection of type of anesthesia. I do not believe that it is possible to be dogmatic regarding the level of amputation. This must be determined after consideration of the extent of the gangrene and infection, the state of the patient, the ability of the patient to accept a prosthesis subsequently, and, most important, the state of the circulation in the extremity. There are, in my opinion, no completely satisfactory tests of the circulatory efficiency of the extremity by which the ideal level for amputation can be determined. The saline wheel test (Stern⁷), the histamine test (De Takats⁸), peripheral nerve block (Morton and Scott⁹), the tourniquet test (Brooks¹⁰), and arteriography have not been found to be wholly reliable guides. Arteriography is not performed without danger of injury to the peripheral arterial bed. The presence of persistent pain productive of fatigue and the presence of fever or of extending gangrene and infection do, however, indicate the neces-

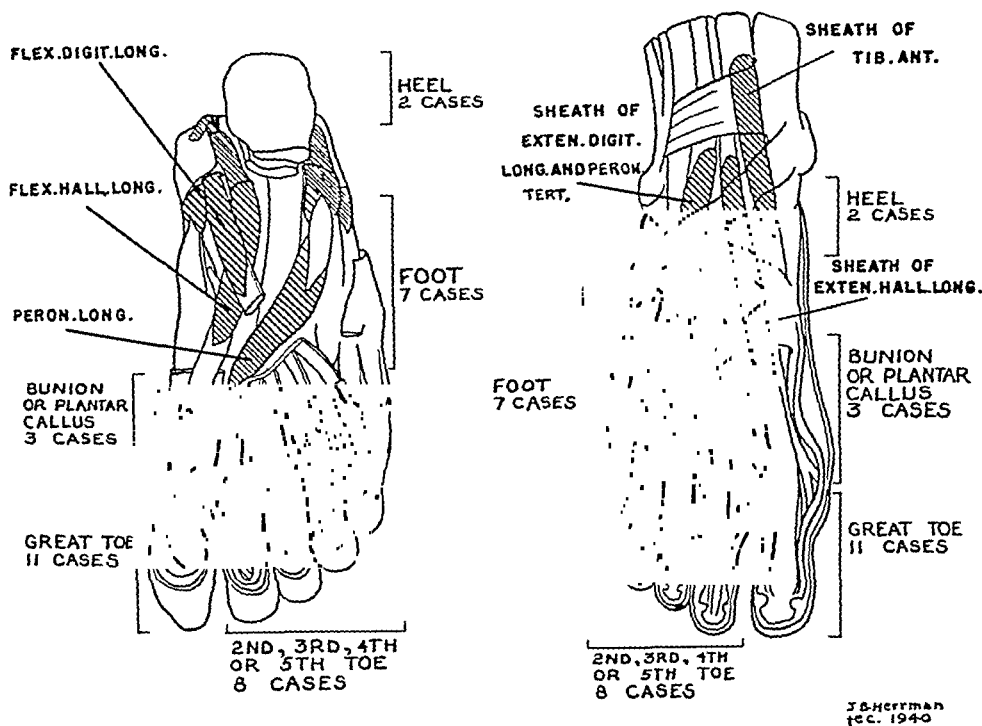


FIG. 2. Area involved in gangrene in 31 cases which came to lower thigh amputation.

sity for amputation, and there are certain general rules that may guide the surgeon. Simple amputation of the toe probably will be successful if there has been little pain, if the infection has not spread over the dorsum of the foot, and if the dorsalis pedis pulse is palpable. In this series this procedure was successful in 10 cases; no higher reamputations were necessary. In 9 cases, amputations of the toe had to be followed by lower thigh amputations and, in 1 case in which amputation was done through the foot, failure to accomplish wound healing followed and lower thigh amputation was necessary. Table 3 lists these data. The final disposition in the 46 patients in this series was 31 with lower thigh amputations, 5 with amputations through the tibia, and 10 with simple amputations of the toe. This is shown in Fig. 1. Secondary amputation has been frowned on rightfully, since this procedure is known to carry with it an increased probability of loss of life.

Fig. 2 is of value in an attempt to determine which part of the foot is most likely to be the starting point of spreading gangrene. It gives the primary site of gangrene at the time of admission to the hospital on the 31 patients

who finally had a lower thigh amputation. It is my impression that because of the proximity of the great toe to the tendon sheath of the extensor hallucis longus tendon gangrene of this toe is of more serious consequence than gangrene of any of the other 4 toes. Anatomically, infection travels a shorter distance from the great toe to reach the ascending tendon sheaths of the dorsum and sole of the foot than does infection from the other 4 toes. As noted by Grodinsky,⁵ the infection in each of the 4 other toes may spread to the adjacent tissue space, but it is unlikely that the infection travels as rapidly in these spaces as it does through the tendon sheaths leading from the great toe.

Technic of Amputation

In the performance of simple amputation of the toe, the digit was amputated through the proximal one-third of the proximal phalanx, the flexor and extensor tendons were sutured to each other over the bony stump, and the wound was packed open. This was the operation done on 10 patients. Because of the extent of the gangrene it was necessary in operations on 17 patients to disarticulate the toe at the metacarpophalangeal joint,

TABLE 4.—COMPLICATIONS IN 12 OF 31 CASES FOLLOWING LOWER THIGH AMPUTATION

Age of Patient	Previous Amputation	Operative Treatment of Stump	Complication	Result	
58	None	Closed with drains	Bronchopneumonia	Died	} Death due to cardiorespiratory complication
58	None	Wound left open	Bronchopneumonia	Died	
68	Toe amputation	Wound loosely closed	Cardiac failure Hydrothorax	Died	
67	None	Closed with drains	Cardiac failure	Died	
67	None	Closed with drains	Cardiac failure	Died	} Recovered
63	None	Closed. No drains	Pulmonary embolism	Recovered	
72	None	Closed. No drains	Postoperation psychosis	Recovered	
57	None	Closed with drains	Gas gangrene of stump	Recovered	
49	2 toe amputations	Wound left open; secondary closure	Abscess of stump	Died	} Death due to complications of the amputation stump
60	None	Wound loosely closed	Gas gangrene of stump	Died	
63	Toe amputation	Closed. No drains	Gas gangrene of stump	Died	
76	None	Wound left open	Secondary hemorrhage from stump Pulmonary edema	Died	

after which the head of the metatarsal was removed with a rongeur, the tendons were secured, and the wound was packed open. Similar technic, amputating through the proximal one-third of the metacarpals, was used in 1 case, the wound having been left open. In 4 cases, amputations were done through the upper third of the tibia and fibula, and in 1 case it was done through the middle third of the tibia and fibula. Here the amputation was carried out so that flaps of soft tissue 2 to 3 inches long projected distal to the sectioned tibia. The fibula was divided at a point 1 inch higher than the level of the division of the tibia. These 5 cases were the most favorable of those subjected to major amputation. Four of these wounds were closed without drainage, while in 1 case it was necessary to insert drains.

In 31 cases of lower thigh amputation the procedure involved circular incision at a point in the lower third of the thigh just above the quadriceps bursa. The subcutaneous tissues and skin are retracted, and muscle and fascia are divided at a point 1 or 2 inches above the skin incision. In order to prevent retraction of the muscles and fascia of the posterior aspect of the thigh, the knee is held flexed at right angles while they are being divided. The periosteum of the femur was elevated to a point 1 to 2 inches above the level of the resection of the muscles, and the bone was divided with a Gigli saw at this point. The marrow cavity was not disturbed; bleeding from the bone was controlled with Horsley's bone wax, sharp spicules of cortical bone were removed

by file or with a rongeur. The femoral artery and vein were doubly ligated with silk; plain catgut was used for ligature or transfixion of bleeding points in the muscle or subcutaneous tissues. The sciatic nerve was dissected free from surrounding tissues, exposed for a distance of 2 inches by traction, and then ligated with plain catgut. The nerve was divided distal to the ligature and injected with a 2 cc. of 95 per cent alcohol proximal to the ligature. Closure in these 31 cases was as follows: closed without drains, 13 cases; closed with drains, 2 cases; partially closed, 3 cases; and wound open, 13 cases.

Anesthesia

In the operations for amputation of the toe it was the policy to use local anesthesia. For major amputations, spinal anesthesia was selected whenever this anesthetic was not contraindicated because of severe hypertension or myocardial damage. Spinal neocaine (120 to 150 mg.), given into the third lumbar interspace without barbotage, serves admirably to anesthetize the entire thigh and was used successfully in 60 per cent of the major amputations in this series. Because of cardiovascular impairment, cyclopropane or ethylene was used in the other 40 per cent of the patients.

Complications

Serious postoperative complications occurred only in the major amputations. In the 31 amputations through the lower thigh there were 12 complications, an incidence of

TABLE 5—MORTALITY (46 CASES, 19.56 PER CENT)

Type Amputation	No. Amputations	No. Deaths	Percentage	Followed by Resamputation
Lower thigh	31	9	29.03	0
Through tibia and fibula	5	0	0	0
Through foot	1	0	0	1
Toe amputation	27	0	0	9

38.7 per cent. In the 5 amputations through the tibia and fibula there was only 1 complication, an incidence of 20 per cent. An analysis of these complications with regard to the age of the patient and the final outcome of the case is of interest. Table 4 shows that 7 patients had complications of the cardio-respiratory system, of which 5 died and 2 recovered. Five were complications of the amputation stump. In 2 cases the complication in the stump undoubtedly was accounted for by the unhealthy granulating wounds of the foot following unsuccessful amputation of the toe. In the 3 patients who developed gas gangrene of the stump, the portal of entry for the anaerobic infection was in the foot. One of these had a draining sinus at the metacarpophalangeal joint, 1 had 3 gangrenous toes with adjacent infection, and 1 had an unhealthy granulating ulcer following amputation of the toe. The patient who died following hemorrhage from the stump was a debilitated 76-year-old man whose wound had not healed but who, fourteen weeks after operation, had been allowed up in a chair in an attempt to avoid the complication of hypostatic pneumonia. The average age of the 13 patients who developed serious postoperative complications was 62.5 years—a little higher than the average age of 62.1 for the entire group.

Mortality

Thirty-six major amputations were done with 9 deaths in the hospital, a mortality rate of 25 per cent. All 9 deaths occurred in the 31 lower thigh amputations, a mortality rate of 29.03 per cent. Five amputations through the tibia, 1 amputation through the foot, and 27 amputations of the toe were done without complications and without deaths. The case mortality (9 deaths in 46 cases of diabetic gangrene) was 19.56 per cent (Table 5).*

Lower thigh amputation for arteriosclerotic gangrene in the diabetic patient carries a higher mortality rate than does the same operation for arteriosclerotic gangrene in the

patients without diabetes. In the same period of time that the above-listed 31 diabetic patients underwent lower thigh amputation, 26 patients with arteriosclerotic gangrene were treated by the same operation. The mortality in the diabetic group has already been listed at 29.03 per cent; in the arteriosclerotic patients without diabetes the mortality rate was 15.3 per cent (4 deaths).

Prostheses

Of the 31 cases in which lower thigh amputations were done: 9 died; 9 were fitted with, and satisfactorily wore, an artificial leg; 1 had both legs amputated and was unable to wear a prosthesis; 7 preferred not to wear a prosthesis; 1 was unable to wear a prosthesis because of senility; 2 were not followed, and in 2 there was not a sufficient lapse of time to permit fitting of a prosthesis. Excluding the 9 deaths, the 2 patients who were not followed, and the 2 who are not yet fitted with a prosthesis, there are 18 patients of whom 9 or 50 per cent are wearing an artificial leg with comfort and satisfaction.

Of 5 cases in which amputation was done through the tibia and fibula: 3 wore a prosthesis satisfactorily, 1 was unable to wear a prosthesis because of senility, and in 1 there was not a sufficient lapse of time to permit fitting of a prosthesis. Excluding the last case in which there has not been sufficient lapse of time, there are 4 patients in this group of whom 75 per cent are wearing a prosthesis satisfactorily.

Consideration of these follow-up reports brings one to the rather startling realization that out of the 37 patients still surviving only 12 or approximately one-third are able to pursue their vocations as well as before the illness. Or, compared to the entire group of 46 patients, only 12 or about one-fourth are engaged in normal daily activity. This realization serves to emphasize the economic importance of the development of gangrene and infection in the diabetic subject. However, the failure to rehabilitate a greater percentage of this group becomes less discouraging when it is realized that the majority of patients were 62 or more years of age and that the average diabetic patient dies at 64.9 years of age. Of

*Six additional cases were treated by amputation between March 1, 1940, and January 1, 1942. Four of these recovered following amputation of 1 toe, while in 2 cases amputation was done below the knee. The addition of these 6 cases to the 46 listed above lowers the case mortality to 17.3 per cent.

vast importance to the patient and the community is the prolonged period of hospitalization in this disease. The average time in the hospital for this group of patients was seventy and three-tenths days.

It is generally recognized that the span of life in this country is being extended, and statistics of the Department of Health of New York City¹¹ indicate that in diabetes the average age at death has steadily risen from 59.5 years in 1919 to 64.9 years in 1939. In this presentation it was pointed out earlier that 1 in 40 diabetic patients probably will develop infection or gangrene of the lower extremity. Again quoting the Bulletin of the Department of Health¹¹ facts have been presented which indicate that in New York City the total number of diabetic patients is somewhere between 50,000 and 75,000. Projecting this estimate, one finds that somewhere between 1,250 and 1,875 diabetics now walking the streets of New York City are potential cases of gangrene or infection of the lower extremity. The public health aspect of this complication is emphasized when one continues the projection to find that seventy hospital days are needed for each of these. The management of infection and gangrene in diabetes mellitus presents itself as a major problem of the community. The hope for lessened morbidity and decreased mortality resulting from peripheral vascular complications in the diabetic patient lies in the drive to perfect the therapy of the peripheral vascular disease in the care of these patients.

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Discussion of Symposium

Dr. Frederick W. Williams, *New York City*—It is interesting to have the statistics from four private hospitals summarized. I was impressed with the cost of these comparatively few cases in private hospitals, but you will see that the city is doing its share, for at Morrisania, which is a 500-bed hospital, 452 lower extremity lesions have been admitted. And a hospital such as

Kings County in Brooklyn probably has even more admissions. Of the 452 cases, 411 were treated and 41 A. O. R., 254 were treated non-operatively, and 157 were operated on, 105 having calf or thigh amputations. Fifty-two had I & D or toe amputations. The key to success is close cooperation between the medical management and the surgical management. Statistics were presented four years ago from Morrisania, and two years ago from the four divisions of Bellevue. And we know that the reduction that has taken place at Morrisania is due to close cooperation, for the medical management is fairly well established.

I do not think that the outlook depends on a single pre- or postoperative blood sugar.

When we come to the surgical aspect, we heard four papers presenting a lot of statistics and after all had been presented, confusion resulted. I know I am confused. We are talking in terms of diabetic gangrene which is the wrong term to use as it is all-inclusive and was used when nothing was known about peripheral vascular disease. In addition to the vague statement of "diabetic gangrene," varied opinions of indications for operation, opinions of dressings, and kind of chemicals used, etc., were presented. With these many variations we then have studies in mortality statistics. Often the series are small. In this confusion, we are confronted with comparative studies of mortality.

Before we go any further, we should analyze our logic and see what we are comparing and what the lesions are, for they are not all the same. At Morrisania for five years, the lesions have been classified according to basic pathology, vascular impairment, and infection. With two elements, there must logically be three classes: (1) purely vascular; (2) purely infectious; (3) mixed—arbitrarily according to degree of vascular impairment together with infection. This is determined by complete physical examination for peripheral vascular disease. Palpitation of vessels, heat, and pain were mentioned here, but nothing was said about nourishment of the nails, hair, history of cramps, general status of arteries and veins, and all other signs of peripheral vascular disease. (Instrumental observations are not essential.)

To explain the above classification: (1) vascular, i.e., senile gangrene; (2) infectious, i.e., osteomyelitis; (3) mixed—both—3 plus—marked signs of peripheral vascular disease, initial gangrene, infection superimposed, 2 plus—moderate signs of peripheral vascular disease, initial infection, gangrene superimposed, 1 plus—slight signs of peripheral vascular disease, initial infection, no gangrene.

We talk about lesions in our hospital according to this classification. In this way we know we are talking about the same thing; from this we begin to talk about indications for operation and what should be done. The urgency of the operation and the level of operation depends on

the severity of the infection and the degree of vascular impairment or combinations.

Classification	Character of Lesion	Surgical Procedures
1. Vascular	Superficial Localized Extensive	No operation Amputation at calf if collateral circulation is good at knee; thigh if not
2. Infectious	Superficial Localized Spreading	No operation I & D I & D
3. Mixed	3 plus Spreading	Amputation at thigh (urgent)
	2 plus Spreading	Amputation at calf (urgent)
	1 plus Superficial Localized Spreading	No operation I & D; toe amputation Amputation at calf (urgent)

It isn't fair to compare mortality. At our hospital we may do a toe operation, and someone else may do a thigh operation on the same type of lesion. In the old days the surgeon stood at the foot of the bed, saw a gray-haired patient with diabetes and a sore foot, called it diabetic gangrene, and said: "Advise a midthigh amputation immediately." His logic was that in the light of his experience the only ones that got better were those done high and early. His logic is sound in deduction but his major premise is faulty, for in the light of his experience a knowledge of peripheral vascular disease was not included. He saw badly infected feet with good circulation and he did a thigh amputation with a good result, but he threw away a lot of good knees. On the other hand, he saw vascular legs with just a toe gangrene and tried to do a toe amputation in a field where the circulation did not permit of the trauma of such surgery, and he got recurrent gangrene. This was faulty due to his lack of knowledge of peripheral vascular disease.

It is important to make studies of comparative mortality, but I believe that they would be of more value if the New York Diabetes Association would first set up some criteria for the classification of lesions—similar to what the Heart Association had done.

It is faulty reasoning for us to compare mortality percentages of operative procedures when these operative procedures are not done on similar clinical lesions. Surgeons do not compare death rates from gastroenterostomy, for some men do them for appendicitis and others do them for gallbladder disease. Comparative mortality figures can only be of value for the same lesion. Our logic is faulty if our conclusions are based on comparative studies of middle terms without the major premise being identical. Years ago doctors treated all mitral stenotic murmurs or auricle fibrillations and "dropsy" as heart disease

with digitalis. By establishing definite criteria, the Heart Association has done a tremendous job in clarifying that phase of medicine. I regard it as an opportunity for the Diabetes Association to do the same to help doctors out of this confused state of mind by establishing definite clinical entities with specific criteria.

Dr. Henry H. Faxon, Boston—The first thing I should like to do is to heartily endorse the plan for classification presented by Dr. Williams. Further, by way of introduction, I should like to point out that it is erroneous to believe that only the specialist can determine who has impaired circulation. All of us, without any complicated equipment, can evaluate clinically and effectively these conditions.

Since the Circulatory Clinic began functioning at the Massachusetts General Hospital in 1928, there have been 250 diabetic patients admitted to the house because of peripheral circulatory disorders. Of the 250 cases, 50 per cent have come to major amputation, and our mortality in this operative group has been 15.7 per cent. The actual carrying out of a surgical procedure in this group of patients is less important than the decision as to what is to be done. Our resident surgeons frequently do the major amputations but are never allowed to decide when and at what level these are to be carried out. A minor operation in this group of patients is always done by one of the visiting surgeons, since it potentially is a greater risk in many ways than a major procedure. A minor amputation in this group will frequently be a major calamity if it is ill-advised.

At the Massachusetts General Hospital we feel that in the diabetic group where infection is marked and the circulation poor the simplest operation should be done, and we think only of ridding the patient of his infection and not in terms of prosthesis. Fifty per cent of the diabetic patients that have been admitted to the Hospital for circulatory disorders have come to major amputation; 10 per cent of the type with advanced infection have had a preliminary simple guillotine amputation through the lower leg, left wide open, followed by a secondary closed amputation at a higher level at a later date. We feel that drains are unwarranted.

Essentially all of these patients are poor risks, and it is significant to find that of our successfully amputated cases one-third had died within two years, and two-thirds within a five-year period. We personally feel that a lower leg amputation in a person with good circulation is desirable but is only rarely applicable to the diabetic arteriosclerotic patient.

ANOTHER REASON FOR WATCHING CALORIES

"Eat less. The gates of Paradise are narrow." Advice of Father Chisholm to an extremely

stout parishioner.—*The Keys of the Kingdom*, A. J. Cronin (Little, Brown & Co.)

INVOLUTIONAL MELANCHOLIA

EDWARD A. STRECKER, M.D., Philadelphia

NATIONS and human beings, alike, have epochs in their existence during which they are exposed to serious hazards, incidental and epochal, in their life histories. Like the individual, the nation is conceived and born. If it survives the helplessness and insecurity of its infancy and adolescence, it comes to a lusty and powerful maturity. At this stage of its existence it meets risks and threats, both external and internal, with confidence and strength. This period may be long in duration but sooner or later the nation reaches its climacteric. At its climax it is at the very height of its power and is able to harvest the fruits of its experiences, economic and cultural. But the handwriting is on the wall. Its zenith is at the same time the beginning of its nadir. Although it may be postponed and, sometimes, almost indefinitely deferred, yet regression has begun. Its next and final epoch, the epoch of its decline and fall, is inescapable, for, like human beings, nations are not only conceived and born but also they must die.

The hazards of any nation are economic, political, social, moral, and spiritual. During certain spans of its existence the nation is more vulnerable to one or more of these threats than at other times.

The epochal life hazards of human beings are physical and mental. Often they are serious enough to threaten continued existence, bodily or mental; always they are significant enough to imperil future satisfactory physical and mental adjustments.

For instance, the pediatrician will tell you of the physical risks in infancy. He will make clear to you that even in this day of scientific advance the mortality among babies is still high. In that day when their physical insecurity was not buttressed by the efforts of science, their ranks were literally decimated by numerous diseases.

Another example of epochal vulnerability to physical threats may be found at the opposite end of the pole of life—old age. Here, again, even the keenest lances of science cannot hold back indefinitely those physical deteriorations that come with old age.

Given by invitation at the Thirty-fifth Annual Meeting of the Sixth District Branch of the Medical Society of the State of New York, Mary Imogene Bassett Hospital, Cooperstown, New York, September 18, 1941.

Professor of psychiatry, University of Pennsylvania, School of Medicine.

Chronology entails not only physical hazards but also serious mental hazards. For instance, in the postadolescent period the chronologic hazard of schizophrenia is significantly shown in the statistical peak reached by this psychosis. Strikingly, in the second decade there occurs the massive schizophrenic retreat from the joys and sorrows, from the promises and the threats of mature emotional life and its competitive heterosexual and heterosexual contacts and demands.

The Climacteric

Obviously, there are particular dangers and risks peculiar to the epoch of the climax and obviously, too, they are either preponderantly somatic or preponderantly psychic.

The flexibility and endurance of young tissues no longer exist, and the pelvis, the heart and circulatory apparatus, and the metabolic chemistry all become increasingly vulnerable.

The armor of the psyche begins to wear a bit thin. If there is a considerable flaw in the resistance of the personality, it may mean a dangerous exposure. There is the encroachment of the many liabilities, intrinsic and extrinsic, of the climacteric. The period of regression has begun. Life cannot be lived over. Gone forever is the resiliency of youth. The mistakes of the past must stand. It is not at all remarkable that a usual accompaniment of the menopause is a certain amount of anxiety, apprehension, and indecision.

Definitely imperiled is the rigid, meticulous, slave-to-detail personality, the combination of perfectionist and New England conscience. There is scarcely enough resistive strength to turn away the increasing number of outer and inner thrusts. No longer can the integrity of the total personality stand up under the lash of an overdeveloped and unrelenting superego. Too often, such individuals are through with fighting and accept the *coup de grace* of a psychosis.

All in all, the climacteric, not only for women but also for men, is an epoch of insecurity. It carries with it a triple threat: somatic, notably cardiovascular, pelvic, chemicoendocrinal-metabolic; environmental, such as the increasing likelihood of failure to attain success in life, financial reverses, disappointments, family worries, the increasing toll of relatives and friends taken by death, etc.;

the inner psychic turmoil and perhaps disaster wrought in a vulnerable personality.

Etiology

The addition of a few facts, largely statistical, more or less complete our etiologic information.

The sex ratio is about 3 women to 1 man.

The age range in women is from about 40 (or even earlier if there has been an artificial menopause) to about 55; in men, roughly from 50 to 65.

Often it seems that the "step" from climacteric to psychosis is a relatively short one. In other words, even within the so-called "normal" range, it is not unusual to find patterns of jealousy, rapidly shifting emotional states, mild depressive reactions, impulsivities of conduct, marked irritability, hypochondriacal sensations.

It seems to me that before completing an utterly drab picture, I should paint in a few bright lights. In one sense it is true that the climacteric is the beginning of the end, but it is a "long last" and, likewise, it is true that only in its accomplishment and, perhaps, for a subsequent decade, is a peak attained. It is the peak of intellectual, emotional, and experience maturing. Often, in the Europe of the past, intelligent women in this age epoch directed and, indeed, sometimes dominated to an amazing degree the political and cultural movements of the day. This has been far less true in the United States, where advertising propaganda has erected a pedestal and placed upon it a "boyish, slenderized form of flaming feminine youth" whose development from the neck up will require many years before it is consummated. Somewhat feebly, perhaps, I have tilted this lance of argument and promise with the "old wives tales" to their daughters—that at the menopause they are apt to "go insane," that at this time their husbands will lose interest in them and seek the company of younger and more attractive women and, in short, that it is a direful and calamitous period of life.

Symptomatology

Do the involutional psychoses, particularly involutional melancholia, belong to the manic-depressive group? Fairly soon I may be in deep clinical water but, if I could restrict myself to the following simple explanation, no great difficulties would be encountered.

1. A psychosis occurring during the "time" of the climacteric—"time" being flexibly in-

terpreted from the standpoints both of the age and the duration of the process.

2. There not having been any previous manic-depressive episodes.

3. A clinical pattern in which motor retardation is replaced by motor overactivity, ranging from restlessness to frenzied agitation.

The depression is just as deep or even deeper, as is witnessed in the depressive phase of manic-depressive; the self-accusation is often more pronounced and the suicidal trends more dangerous, since there is less apt to be the paralyzing effect of retardation. In a considerable segment of the patients the ideational processes are active with a rich association of ideas, but in even a larger segment there is poverty of thought. Although the patient may be vocally energetic, it is largely repetitive—"Oh, my God! oh, my God!" etc., etc.

The leading symptomatic motifs in an average instance of involutional melancholia may be briefly summarized as follows:

Emotional State.—This is characterized by marked depression, often presenting strong admixtures of apprehension.

Self-blame—self-accusation is usually quite severe—is apt to contain interesting admixtures of the grandiose which has not received sufficient clinical attention. One patient in a state of frenzied self-accusation tells of the punishment she will receive: "I am to be boiled to death in a solid gold kettle!" There is another patient, failing to produce horror and disgust in the psychiatrist, invariably concludes her story of "my vile sexual life" by describing with much histrionic effect "the night when I had sexual relations with forty-three Russians."

Somatic Delusional Formation.—This is frequently a part of the clinical picture and varies from hypochondriasis to the expression of gross somatic delusions: "Everything gone—everything out of me, no stomach, no lungs, no insides, just a shell. All my organs have passed out of my rectum. There is nothing in between. There is nothing left but hands and feet and eyes. This is a miracle—no breath—or anything—Oh, God!—not an earthly thing is left."

Motor State.—Here, as has been indicated, there is a range from mere restlessness to frenzied agitation.

Consciousness and Orientation.—All in all, these cases are amazingly little disturbed and, frequently, a patient will interrupt a delusional outburst in order to observe with clarity and report with accuracy some trivial incident

INVOLUTIONAL MELANCHOLIA

EDWARD A. STRECKER, M.D., Philadelphia

NATIONS and human beings, alike, have epochs in their existence during which they are exposed to serious hazards, incidental and epochal, in their life histories. Like the individual, the nation is conceived and born. If it survives the helplessness and insecurity of its infancy and adolescence, it comes to a lusty and powerful maturity. At this stage of its existence it meets risks and threats, both external and internal, with confidence and strength. This period may be long in duration but sooner or later the nation reaches its climacteric. At its climax it is at the very height of its power and is able to harvest the fruits of its experiences, economic and cultural. But the handwriting is on the wall. Its zenith is at the same time the beginning of its nadir. Although it may be postponed and, sometimes, almost indefinitely deferred, yet regression has begun. Its next and final epoch, the epoch of its decline and fall, is inescapable, for, like human beings, nations are not only conceived and born but also they must die.

The hazards of any nation are economic, political, social, moral, and spiritual. During certain spans of its existence the nation is more vulnerable to one or more of these threats than at other times.

The epochal life hazards of human beings are physical and mental. Often they are serious enough to threaten continued existence, bodily or mental; always they are significant enough to imperil future satisfactory physical and mental adjustments.

For instance, the pediatrician will tell you of the physical risks in infancy. He will make clear to you that even in this day of scientific advance the mortality among babies is still high. In that day when their physical insecurity was not buttressed by the efforts of science, their ranks were literally decimated by numerous diseases.

Another example of epochal vulnerability to physical threats may be found at the opposite end of the pole of life—old age. Here, again, even the keenest lances of science cannot hold back indefinitely those physical deteriorations that come with old age.

Given by invitation at the Thirty-fifth Annual Meeting of the Sixth District Branch of the Medical Society of the State of New York, Mary Imogene Bassett Hospital, Cooperstown, New York, September 18, 1941.

Professor of psychiatry, University of Pennsylvania, School of Medicine.

Chronology entails not only physical hazards but also serious mental hazards. For instance, in the postadolescent period the chronologic hazard of schizophrenia is significantly shown in the statistical peak reached by this psychosis. Strikingly, in the second decade there occurs the massive schizophrenic retreat from the joys and sorrows, from the promises and the threats of mature emotional life and its competitive heterosexual and heterosexual contacts and demands.

The Climacteric

Obviously, there are particular dangers and risks peculiar to the epoch of the climax and obviously, too, they are either preponderantly somatic or preponderantly psychic.

The flexibility and endurance of young tissues no longer exist, and the pelvis, the heart and circulatory apparatus, and the metabolic chemistry all become increasingly vulnerable.

The armor of the psyche begins to wear a bit thin. If there is a considerable flaw in the resistance of the personality, it may mean a dangerous exposure. There is the encroachment of the many liabilities, intrinsic and extrinsic, of the climacteric. The period of regression has begun. Life cannot be lived over. Gone forever is the resiliency of youth. The mistakes of the past must stand. It is not at all remarkable that a usual accompaniment of the menopause is a certain amount of anxiety, apprehension, and indecision.

Definitely imperiled is the rigid, meticulous, slave-to-detail personality, the combination of perfectionist and New England conscience. There is scarcely enough resistive strength to turn away the increasing number of outer and inner thrusts. No longer can the integrity of the total personality stand up under the lash of an overdeveloped and unrelenting superego. Too often, such individuals are through with fighting and accept the *coup de grace* of a psychosis.

All in all, the climacteric, not only for women but also for men, is an epoch of insecurity. It carries with it a triple threat: somatic, notably cardiovascular, pelvic, chemicoendocrinal-metabolic; environmental, such as the increasing likelihood of failure to attain success in life, financial reverses, disappointments, family worries, the increasing toll of relatives and friends taken by death, etc.;

necessary to requisition the diagnostic and therapeutic skill of the specialist in every field of medicine and surgery.

Occupational Therapy.—Unquestionably, wisely selected and skillfully supervised occupational therapy often makes life bearable for the patient. The nature of the finished product is not important. Important are the facts that energy that would be uselessly and destructively expended is turned into interesting channels; that the work is a hostage to the reality to which it is hoped the patient will be returned; and that gloomy, foreboding, and suicidal thoughts are made less oppressive and sometimes transmuted into faint stirrings of hope which may grow into recovery.

I knew the instance of a talented woman, a sculptress, deep in the throes of a profound melancholia. Retrospectively, she told of being tormented almost constantly by horrible suicidal thoughts, always with the content of finding death by breaking her neck. She was induced to try her sculpturing again. Finally, she completed a beautiful figurine—a female figure, *head thrown back at a right angle to the body*, long hair streaming down the back. The completion of the figurine was the beginning of the end of the melancholia. Soon the patient was well. Later, she confided that the suicidal thinking and planning had passed out of her into the modeling clay.

Nursing Care.—The nurses are with the patient almost constantly. It is of the utmost importance not only that they be skilled in psychiatric nursing technics but also that they have an adequate understanding of the psychopathology of the involutional psychosis. Unless they are equipped in this way, they cannot intelligently combat the attempt of the patient to remain under the cover of unreality, nor can they be effective in assisting the physician in leading the patient back to reality.

Psychotherapy.—In the large majority of instances patients are not accessible to anything but the more simple forms of psychotherapy. However, it is a mistake to underestimate the importance of simple reassuring and suggestion therapy. Many recovered patients testify to the courage they derived from reiterated suggestion and reassurance.

Treatment

The somewhat gloomy prognostic forecast in involutional melancholia has been made brighter during the past decade by energetic researches in three fields: endocrinologic-

chemistry, so-called psychosurgery, and the drastic therapies.

1. Because of its limited area of application, the operation of prefrontal leukotomy is considered first. It was suggested in 1936 by Moniz, a Portuguese surgeon. Originally, he employed alcohol injections into the centrum ovale. Later, he used the technic of cutting, with a leukotome in the prefrontal area bilaterally, three cores, one mm. in diameter, leaving *in situ* the cut tissue.

In selected cases the clinical results appear to be quite good. An important factor in the production of improvement is the cleavage that is produced by the operation between the ideational content of the psychosis and the vivid and dynamic emotional matrix of apprehensive depression in which it is embedded.

With a single exception, I have refrained from advising the operation of prefrontal leukotomy in involutional melancholia, adhering to the following rather rigid criteria: a duration of the psychosis of more than one year, unquestionable chronicity, absence of cardiovascular and other contraindications to brain surgery, failure of all other methods of therapy, and the presence of an exceedingly severe symptomatology with a strongly moving apprehensive-depressive content so that the life of the patient is extremely burdensome and the care of the patient unsatisfactory.

2. Endocrine therapy still gives more promise than fulfillment, but the promise is a valid one. Even though the clinical course is not much influenced, yet, stilbestrol given orally to women is capable of producing estrin saturation, "as evidenced by the changes in urinary A. P. H. and estrin values, by the induced uterine bleeding, and by other clinical signs of estrin effect.

"Testosterone administered by intramuscular injection in male involuntions is capable of producing sexual stimulation, a general improvement in physical well-being and may reduce symptoms arising from benign prostatic hypertrophy. Its beneficial effect in the psychotic stages is questionable but some improvement has been noted in two men with early involutional melancholia.

"Parathormone administered hypodermically in twice daily doses of 50 and 100 units, together with calcium and ammonium chloride, increases serum calcium levels. This therapy has no effect on the clinical course of the disorder."

3. Concerning the third direct treatment

that has occurred within the range of her vision.

If one could stop here it would be well and good, but one cannot. There are innumerable modifications of this clinical picture. Only a few of these modifications may be mentioned: feelings of unreality; nihilistic, delusional conceptions; ideas of poverty; catatonic phenomena; many emotional shadings including pessimism, irritability, sarcasm, irony; sadistical attitudes; hallucinosis; and, finally, paranoid trends often well developed and systematically presented and with a considerable sexual content.

These modifications and sometimes distortions of the original pattern have led to the inclusion of a vast amount of allied and alien clinical material. Thus, there have been included at the earlier age-end of the scale many late schizophrenic reactions and at the later age-end, arteriosclerotic reaction types.

This is not laudable psychiatry. Naming things too soon before sufficient information has been acquired blocks the accumulation of knowledge. Hair-splitting discriminations, with the addition of high-sounding nomenclature, have not really opened up the unexplored areas of the territory of the involutional psychoses.

The so-called *reactive depressions* constitute a significant exception. Since they probably do not carry with them the constitutional implications of manic-depressive, it is important that they be clearly distinguished. They are marked chiefly by the fact that they are severe emotional reactions to real and disruptive life situations, and the connecting thread between the "cause"—i.e., the life situation—and the "effect"—i.e., the depression—remains unbroken in the mind of the patient for a long time and, not infrequently, it is never lost.

Course and Prognosis

Involutional melancholia tends to be a lengthy psychosis. A duration of a year or more is not uncommon. The recovery rate is about 23 to 40 per cent. About 25 to 32 per cent become chronic, and about 1 of every 5 die by suicide and intercurrent disease.

Unfavorable prognostic indications are: a duration of more than one year, an age of more than 55 years, the intensification of symptoms referable to arteriosclerosis of the cerebral vessels, marked insufficiency of affect, peevishness or autoerotic behavior, and continued gross somatic delusions.

Treatment

Preventive treatment has not been sufficiently stressed. At the approach of the climacteric, every woman is entitled to a cardiovascular and pelvic examination and an endocrine survey; every man should have a thorough examination. Advances and researches, important and sometimes brilliant, in the field of endocrine chemistry make excellent prophylactic promise for the future.

In the area of protective psychologic therapy there is an opportunity for pioneer mental hygiene. To sweep away the clutter of ignorance, superstition, and sexual folklore, which has accumulated around the truth of the climacteric, in itself would be a noteworthy achievement. The physician can be constructively helpful without trespassing beyond the limitations of honesty. I doubt if an attitude of expansive optimism and Pollyannaish preachments along the lines of "business as usual" during the climacteric is truly helpful. True enough, it is a natural epoch, but so is the childbearing period natural and physiologic, yet some women do lose their lives in childbirth. Actually, the complexities of modern civilization have introduced complicating factors, personal and social, so that the terms "natural" and "physiologic" must be used with considerable reservation in considering the climacteric and in attempts to protect human beings from its hazards.

Hospital and Sanatorium Treatment

Not only because of the considerable suicidal risk but also because of the constant need of treatment facilities of the greatest variety, it is usually imperative for the patient to spend some time in a mental hospital or sanatorium.

Hypnotic Medication—It is doubtful whether one can hope to escape the employment of hypnotic medication throughout the course of an involutional melancholia. The problem is one of avoidance of overdosage, the strict limitation of narcotic and seriously habit-forming drugs, and the minimization of the use of hypnotic drug therapy by the employment of the continuous bath and other hydrotherapeutic measures.

Diet.—A full and vitamin-rich diet is indicated.

Internal Medicine.—Each patient is a problem in internal medicine and, sometimes, an intricate problem. The existence of involutional melancholia does not rule out the possible presence of the widest variety of structural pathology. The review of a large number of patients clearly indicates that it is often

THE PRESENT STATUS OF SURGICAL PROCEDURES DIRECTED AGAINST THE EXTRAPYRAMIDAL DISEASES

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FROM the therapeutic standpoint, the disease processes commonly attributed to dysfunction of the extrapyramidal system are among the most refractory of all conditions with which the neurologist is required to deal. This group of disorders is protean in its manifestations, encompassing a variety of clinical syndromes, the outstanding characteristics of which are hyperkinesia and alterations in myotonus. Among them may be listed the familiar syndromes of athetosis, chorea, dystonia musculorum (torsion spasm, tortipelvis), and paralysis agitans (parkinsonism); a heterogeneous series in which are represented tics and spasms (e.g., facial tic, spasmodic torticollis), myoclonus, paramyoclonus multiplex, hemiballismus, hiccup of central origin, and certain types of cerebral spastic palsy; and a number of relatively rare conditions such as Wilson's progressive hepatolenticular degeneration, Westphal and Strümpell's pseudosclerosis, Jakob and Creutzfeldt's spastic pseudosclerosis, C. Vogt's status marmoratus and Hallervorden and Spatz's status dysmyelinisatus of the globus pallidus. The syndrome most recently added to the catalogue of extrapyramidal diseases is that described by Mount and Reback⁴⁸ under the name of familial paroxysmal choreo-athetosis.

The generally disappointing character of the conservative measures employed against these disorders is too well known to require more than a passing reference here. Under one circumstance or another almost every agent in the pharmacopoeia has been empirically subjected to trial, and physical, re-educational, and psychiatric measures of diverse sorts have been employed without favorably influencing the vast majority of patients afflicted with the so-called extrapyramidal diseases.

In brief summary it may be indicated that certain cases of parkinsonism appear to be partially benefited by the belladonna derivatives,^{2, 14, 15, 16, 23, 27, 32, 33, 45, 50, 51, 52, 54, 65, 66, 72^a, 72^b, 73^b, 74} vitamin B₆,^{34^a, 34^b, 69} benzedrine sulfate,^{11, 13, 44, 59, 63, 73^a} and syntropan⁶⁷ and that temporary

improvement has been observed in certain instances of dystonia and athetosis following injections of curare and its synthetic relative, erythroidine hydrochloride.⁷

Even in those cases in which therapy exerts a partial improvement, there are manifest drawbacks—viz., (a) such treatments, being symptomatic rather than curative, require to be administered throughout the lifetime of the patient; (b) the undesirable side reactions often produced by the relatively large and sustained doses of drug imply numerous contraindications; (c) the results are unpredictable from case to case; and (d) "relapses" are not unusual. With reference to the extrapyramidal disorders other than parkinsonism, dystonia, and athetosis, the therapeutic outlook is even more discouraging.

Experimental therapeutics in this field has been hampered by a number of disquieting circumstances, the most obvious among which are the following: (a) the lack of a satisfactory anatomic delineation of that which is commonly referred to as "the extrapyramidal system"; (b) confusion concerning the functions of this system and its component parts; (c) the unsolved problems of the interrelationships obtaining between the neocortex at large, the pyramidal, parapyramidal, extrapyramidal, thalamic, and cerebellomesencephalic complexes; (d) the uncertain state of knowledge concerning the seats of pathologic change in the different extrapyramidal diseases; (e) corresponding deficiencies in the comprehension of the pathogenesis of the various clinical manifestations of these diseases; (f) lack of conviction on the point that among the several clinical syndromes categorically referred to as extrapyramidal diseases there are identifiable common pathophysiologic principles of such character as to warrant their being considered together; and (g) the inability to reproduce the so-called extrapyramidal syndromes in laboratory animals.

Formidable as these difficulties are, they are further intensified by the numerous uncertainties relating to the etiology of the extrapyramidal diseases. To take as illustration that clinical entity concerning which it is generally regarded we are best informed from the etiologic standpoint—namely, paralysis

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From the Department of Physiology (Neurophysiology), Long Island College of Medicine, and the Neurosurgical Services of the Brooklyn and Kings County hospitals.

technic, I recognize the fact that I may live long enough to retract; yet, on the basis of considerable experience, I am mildly enthusiastic about electroshock therapy. If the preliminary examinations, particularly the cardiovascular survey and the x-ray examination of the vertebral column are carefully and thoroughly made, then the risk is slight. The clinical results have been quite good. It re-

mains to be seen whether they will survive the test of time. Electroshock therapy has definite advantages over metrazol-induced convulsive treatments. The technic is more controllable and, blessedly, the patient is at once unconscious so that he or she is spared the physical and the psychologic brutality of the convulsion.

111 North 49th Street

THE COUNTY SOCIETY SECRETARY

This is an accolade for the man who performs one of the most important but thankless jobs in medical organization—the county society secretary.

Year-end society elections throw a momentary spotlight on his position, but for the next twelve months he performs his duty in the relative obscurity of behind-the-scenes desk work. In some counties he is a veteran, re-elected year after year by his colleagues because they know he is willing to make personal sacrifices for the good of his profession. In other counties he is a newcomer, elevated to the post because the society members believe he can be relied on to carry out the organization's many paper-work details.

For the president there is limelight, prestige, and the gratification which comes from being the key man in local medical affairs for a brief time. For councilors and committee chairmen there are questions of policy to be considered and acted upon. For the secretary there are bulletins from the State Association to be transmitted; there is correspondence with the State Association and the *Journal* to keep up; there are membership records to keep straight.

In terms of telephone communications the secretary's job is like a switchboard. Through it passes the vital business which keeps the society alive. Through it the wires are kept clear and traffic is kept moving. It is not a job on which lip service is of much value. The man who fills this job deserves the complete cooperation of all members of his society.—*Ohio State Med. J.*

FITNESS FOR FREEDOM....

... is the theme of a special March number of the *Survey Graphic* in which such eminent leaders as C. E. A. Winslow, Howard W. Haggard, Haven Emerson, Frank G. Boudreau, Thomas Parran, Donald B. Armstrong, and others tell:

- about contrasts between health provisions for the armed services and civilians.
- what you should know about nutrition.
- about alcohol in wartime.
- how to select a physician and a dentist.
- how we can advance medical care.
- what we can learn from Britain about the welfare of women and children in wartime.
- how we can reduce venereal disease in the armed services and in war-production areas.
- changes rationing may bring to food, clothing and shelter.
- how we can rehabilitate rejected men.
- what physicians and laymen should know about mental health.
- how we must prepare to combat epidemics.
- why we must have a national program for buoyant health.
- how Americans should plan vacations in 1942.
- what business can do to keep employees healthy.
- how we can improve our public health services.
- about medical services every family must have.
- who should organize a group health plan.
- about the future of voluntary hospitals.
- what health experts see on world horizons.
- what the future of American health demands of physicians and citizens generally.

PULLMAN CARS INTO HOSPITALS

The War Department is converting four Pullman cars into hospital ward cars at a cost of \$22,556 each. Each car will have beds for 32 patients. Two of these cars will be used with each hospital train. An administrative unit car will have an operating room, kitchen capable of feeding 500, bunks, shower for kitchen personnel, and office and quarters for the two officers in charge. Each ward car will have three nurses and three orderlies.—*Wichita Medical Bulletin*

REBUKE

Why don't yer print me pome?
Ye've had it long enough;
It's better by far I'm tellin' yer
Than lots of yer printed stuff.
So scabble around and find it—
And don't let it happen agin!
When yer see me name to a pome
I expect yer to put it in.

—Edna Moore Adams, "Sun Dial,"
New York Sun

a similar operation to advantage on 2 additional cases.

In 1910 Anschütz¹ recorded a successful experience in the treatment of choreo-athetosis by ablation of the motor cortex and, since then, reports of the results of cortical operations in the hands of Payr, Nazaroff, Polinow, Bucy, Sachs, Walker, Bailey, Putnam, and Klemme have appeared.

In the first of a series of 9 cases Bucy⁶ extirpated that portion of Brodmann's area 6 considered to correspond to the projections of the hand and forearm. The athetoid movements were abolished and have not reappeared throughout the nine years since operation. The procedure is stated to have produced a slight increase in the severity of a pre-existing hemiparesis. A similar surgical procedure was carried out in the second and third cases of the series.^{6a, 6b} Although the choreo-athetosis in both instances was appreciably dampened, it was not entirely abolished, and for this reason in his next 5 patients Bucy^{6b} resected area 4 as well as area 6. Two of the 5 patients presented a unilateral tremor, one of which was of post-traumatic and the other of doubtful, possibly syphilitic, origin. A satisfactory result was obtained in both tremor cases. The remaining 3 patients presented syndromes commonly designated by the terms choreo-athetosis, hemiballism, and dystonia (torsion spasm). In this group the results were disparate. An appreciable diminution in hyperkinesia was obtained in 2 cases, but in the third case—that of a patient with bilateral dystonic movements—no benefit was obtained even though areas 4 and 6 of both hemispheres were eventually extirpated.

Considerable importance is attached to the ninth case cited in Bucy's report^{6b}—a patient from whose left lateral occipital region Bailey removed a posttraumatic cortical scar. No benefit resulted from this operation. The experience suggests that improvement is not to be anticipated by the mere surgical removal of an obvious lesion, and it demonstrates that the clinical improvement that follows precentral cortical extirpation is not properly explicable in terms of "diachisis," "equipotential function," or other nonspecific effect.

In 1935 Sachs³ reported favorably on the results of removal of the precentral gyrus in 3 cases of choreo-athetosis.

By far the largest series of cases subjected to cortical extirpation is that reported upon by Klemme,^{6a-c} whose experience now exceeds 100 patients. Instances of parkinsonism, as well as dystonia musculorum and choreo-athetosis, were included in this report. It is not entirely clear from Klemme's paper whether or not closely corresponding areas of cortex were regularly removed in all cases of the series, but the surgical attack in the main was directed at the precentral cortex, more particularly at area 6. Measured by the effect on the hyperkinetic phenomena, a

number of strikingly good results were obtained in Klemme's series.

It should be recorded that some writers have failed to influence favorably the movements of choreo-athetosis and dystonia by resection of the precentral cortex. Among these are Davison and Goodhart,¹² Foerster,^{13b} and Klemme.^{40c} Recently, a girl, aged 17, with a left-sided choreo-athetosis of eight years' duration was operated upon by Dr. E. Jefferson Browder. An extensive block of cortex, representing effectually all of area 6 anterior to the precentral gyrus, area 8, and portions of areas 9 and 46, was extirpated from the right hemisphere. Area 4 and a narrow strip of area 6 adjacent to it were left intact. The operation was followed by a hemiplegia and, during the ten days that this condition prevailed, hyperkinesia was absent. As the paralysis receded the athetoid movements returned with their former vigor and, indeed, became more severe in respect to frequency and amplitude.

Mashanskij⁴² failed to obtain satisfactory results in the treatment of hyperkinesia by injection of alcohol into the motor and premotor cortex, by subcortical section of the pyramidal tract, and by partial section of peripheral nerves. Naffziger⁴³ recorded improvement in 1 out of 4 patients subjected to alcohol injection of the precentral region.

Reports on the effect of tenotomy and section of peripheral nerves for choreo-athetosis are uniformly disappointing. Such procedures are open to the criticism that they ignore the actual problem of dynamic neural equilibrium and attack it as if it were one of the actions of the final common pathway and the corresponding muscles.

(b) *Cordotomy.*—In 1931 Putnam^{57a} carried out the first anterolateral cordotomy for the relief of athetosis. The series now exceeds 30 cases, of which nearly half presented with bilateral involvement.^{57b, 57c, 57d, 57e} It is the intention of the operation, in effect, to interrupt the so-called extrapyramidal bundles—i.e., the rubrospinal, reticulospinal, tectospinal, olivospinal, and vestibulospinal tracts. Unless the lower extremity alone requires treatment, the level of choice for the surgical section is at the second cervical segment. Of the first 27 cases, all with advanced hyperkinesia, 20 showed appreciable degrees of postoperative improvement in that their aberrant movements were now less vigorous. Motor control was correspondingly increased and speech was more easily understandable. Some patients gained the ability to sit up alone in a chair and a few were able to walk. In general, the patients were more comfortable physically, enjoyed a brighter psychologic outlook, and were capable of being more readily handled by their attendants. Oldberg⁵⁸ carried out the operation of anterolateral cordotomy on 10 cases and reported a marked diminution in the extraneous movements, reduction in spasticity, when present, and relief from pain.

(c) *Pallidofugal Section.*—The present writer

"agitans"—we find ourselves under the present necessity of referring to "postencephalitic," "arteriosclerotic," and "idiopathic" (sic) types. The solution of the etiologic and pathogenic issues is to a considerable extent quibbled by the fact that the psychologic processes of attention and emotion are singularly capable of influencing the clinical manifestations of the extrapyramidal diseases. Indeed, several of the disorders under inquiry appear to stand on the precarious borderland between what are traditionally represented in neurology as "organic" and "functional." Thus, until fairly recently, athetosis, torticollis, tremors, tics, and dystonic and choreiform movements were quite universally interpreted as psychoneuroses, and even today psychoanalysis and other psychotherapeutic measures are the procedures of choice in the judgment of some therapists. It must be conceded that the therapist often encounters among the major hysterias close simulacra of the extrapyramidal disorders. The total effect of the difficulties referred to above has been to keep the *modus operandi* of experimental therapeutics at a primitive and empiric level.

Within the past decade several surgical forays have been made to deal with the extrapyramidal diseases and some encouraging results have been obtained, particularly in choreo-athetosis, dystonia musculorum, and parkinsonism. To a smaller extent, the therapeutic problems presented by tics, spasms, myoclonus, intractible hiccup, and cerebral spastic palsy have also been attacked by surgical methods. While it is to be recognized that these endeavors are as yet in the experimental stage, that uniformity of results is not yet been realized, and that the matter of standardization of the operative procedures is only now beginning to take form, a considerable interest in the work has apparently been aroused and inquiries bearing on its possibilities have been numerous.

In view of this, it is the intention of this communication to consider the present status of those procedures that have been found useful in the treatment of the extrapyramidal disorders and to outline their indications, contraindications, limitations, hazards, and relative merits. Operative procedures that have proved ineffective will be referred to only insofar as the negative findings arising from them contribute to an interpretation of the physiologic dynamics of the disorders for which they were intended.

I. Choreo-Athetosis and Dystonia Musculorum

The etiologic processes generally considered to subtend these disorders are the encephalitides and meningitides, cerebrovascular accidents, craniocerebral trauma, and the cerebral abiotrophic and degenerative diseases. In accord with the arguments advanced by Wilson⁷⁵ that the syndromes referred to as chorea and athetosis are merely variants of one another, the two will be dealt with here under a joint heading. For a similar reason and since various types of hyperkinesis clinically designated by such terms as torticollis, ballismus, spasms, grimacing, torsion of the trunk, etc., either frequently coexist with, or actually represent, special instances of choreiform and athetoid movements, it will be convenient to consider the surgical therapy of the dystonias along with that of choreo-athetosis.

Evidence from several experimental sources^{20, 26, 23b, 70, 75} strongly indicates that in the movements of chorea and athetosis (and probably also of dystonia) antagonistic muscle groups are activated without regard to the physiologic principles of reciprocal innervation and, further, that muscles which under normal conditions act synergically with respect to one another often contract and relax independently. In contrast, the tremors of paralysis agitans are characterized by an agonistic-antagonistic muscle activity that proceeds wholly in accord with the principles of reciprocal innervation.^{23a} The obvious inference is that the neural mechanisms underlying the hyperkinetic phenomena of choreo-athetosis and parkinsonism differ from each other in certain crucial respects. As we shall see, the evidence from experimental surgery supports this deduction in a convincing manner.

(a) *Cortical Operations.*—Sir Victor Horsely²² was apparently the first to carry out a successful surgical procedure for the relief of athetosis. His patient was a boy, aged 15, who at the age of 8 years suffered an attack of scarlet fever complicated by a left hemiplegia. The hemiplegia partly regressed, but there shortly supervened a severe athetosis of the left upper extremity. At operation, a marked atrophy of the right postcentral gyrus was observed. Horsely resected the precentral gyrus corresponding to the projection of the upper extremity, and the aberrant movements promptly disappeared. A considerable degree of enduring dyspraxia of the affected limb followed the operation, but throughout the follow-up period of fourteen months no athetoid movements were observed. Horsely carried out

the intracranial procedures may be expected to carry a greater mortality than the intraspinal procedures. In Klemme's series of 97 cases the mortality was slightly over 17 per cent. In Putnam's report of his first 27 cases the mortality was 11 per cent. Oldberg carried out antero-lateral cordotomy on 10 cases without a death. These are the only series large enough to be significant for statistical purposes. In all likelihood as experience grows the mortality can be reduced to the neighborhood of 4 to 5 per cent.

Morbidity is essentially that to be anticipated in neurosurgical procedures in general, since the same exposure to the possibilities of wound infection, osteomyelitis, postoperative hemorrhage, meningitis, and brain abscess, however small, is here involved. Under no circumstances should operation be carried out through skin affected by eczema or acne. The aspiration of vomitus and hypostatic congestion, which are occasionally responsible for postoperative bronchopneumonia, are factors to be considered and guarded against. Hyperthermia, a common neurosurgical complication, is an additional factor in morbidity, and Klemme's experience has indicated to him the necessity of deferring operation during the summer months. The operation of high cervical cord section always carries with it the likelihood of severe respiratory embarrassment. For this reason, the surgeon who contemplates antero-lateral cordotomy lists among his indispensable armaments endotracheal anesthesia, oxygen, and a Drinker respirator.

II. Paralysis Agitans

Thus far, three levels of the nervous system have been surgically attacked with some measure of success in the effort to control the hyperkinesis of paralysis agitans—viz., (a) the spinal cord, (b) the precentral cerebral cortex, and (c) the basal ganglia. The data derived from these sources have yielded a considerable body of pathophysiologic information bearing on the neural mechanisms of parkinsonism. In addition, valuable information of a negative sort has been acquired by the parallel demonstration that the tremor of parkinsonism cannot be abolished by (a) interruption of the posterior roots of the spinal nerves innervating the affected limb(s) (Pollock and Davis,⁵⁶ Puusepp,^{55a} and Foerster and Gagel⁷²); (b) section of the antero-lateral columns (Putnam^{57c, 57f, 57g} and Oldberg⁵³); (c) section of the dorsal columns (Puusepp^{55b} and Rizzatti and Moreno⁵⁰); and (d) destruction of the dentate nucleus (Delmas-Marsalet and van Bogaert¹³). Seemingly, some diminution in rigidity can be accomplished by each of these measures even though the tremors themselves are unaffected.

(a) *Cortical Operations.*—As heretofore noted, Bucy^{4b, 6b} reported favorably on the abolition of hyperkinesis in 2 cases of unilateral tremor following the extirpation of areas 4 and 6. His first case presented tremors of the action and intention types, as well as those at rest. The etiology in this instance was trauma. His second case was more readily comparable in its clinical features to the familiar parkinsonian picture. Although the presence of syphilis in this instance was revealed by serologic tests, the etiology of the unilateral tremors was uncertain. It should be commented in passing that the distinctions formerly presumed to exist between the action, intention, and rest types of tremor do not appear wholly warranted upon close analysis. In many "classic" cases of parkinsonism, tremors may be discovered not only at rest but also during intentional action.

Klemme's results in the treatment of paralysis agitans by resection of area 6 have been considered highly favorable. Concerning the degree of improvement, this author^{4b} has asserted: "It suffices that these patients are rehabilitated and can carry on their former work." He has encountered no recurrences since the first case was operated upon in 1937.

(b) *Cordotomy.*—Following his failure to influence the tremors of hemiparkinsonism by antero-lateral cordotomy, Putnam^{57c, 57f, 57g} was led to suppose that the impulses producing the tremors of paralysis agitans travel largely in the lateral funiculus of the cord, particularly in that region which gives transit to the crossed pyramidal tract. Accordingly, he interrupted the lateral pyramidal tract at the second cervical level in 6 cases of unilateral parkinsonism. The results were reported upon in 1940 and may be summarized as follows. When the section is sufficiently complete, there is an appreciable dampening of the tremors so that in the resting state they are barely if at all perceptible. During the execution of voluntary acts and under emotional excitation tremors may be evident, although of less amplitude than noted preoperatively. Rigidity is effectually abolished but is replaced by a slight antigravity spasticity.

Mashanski,⁴³ following Putnam's earlier lead, employed the operation of antero-lateral cordotomy in 17 cases of alternating tremors and other adventitious movements. He reported 3 apparent permanent recoveries and 5 "fairly satisfactory" results. It is difficult, in view of Putnam's negative results in 5 successive cases of hemiparkinsonism subjected to antero-lateral cordotomy, to account for Mashanski's successes unless the pyramidal tracts in these instances were incidentally damaged.

(c) *Operations at the Level of the Basal Ganglia.*—In a recent article the present writer^{4b} reported in detail experiences with 8 cases of paralysis agitans subjected to various operative procedures on the basal ganglia. The series at present numbers 10, of which 5 were unilateral

recently attempted to abolish a unilateral choreo-athetosis of the right-sided extremities in a girl, aged 17, by sectioning the fibers of the left ansa lenticularis and fasciculus lenticularis. During the early postoperative days, while a condition of hemiparesis prevailed, the patient was free of aberrant movements. As recovery took place, however, the athetotic movements returned.

The Present Surgical Outlook

This requires a consideration of the operations directed against choreo-athetosis and dystonia musculorum from the standpoints of (a) applicability, (b) the degree and duration of improvement to be anticipated, (c) the untoward neurophysiologic side effects involved, and (d) mortality and morbidity.

(a) *Applicability.*—The operative procedures thus far employed to advantage are manifestly of a serious character and are, therefore, contraindicated for all patients whose general constitutional or specific organic status is such as to render them poor risks for any elective surgery. This eliminates the majority of elderly patients, young children, and those of other age groups depleted from any cause. In the opinion of the present writer, those patients presenting clinical evidence of vegetative dysfunction should also be eliminated. It would seem equally unjustified to recommend operation for those who present aberrant movements of only slight to moderate degrees of severity, particularly if the affected limbs possess useful function in terms of motor power, coordination, and eupraxia.

A consideration of the applicability of surgery to bilateral cases involves a comparison of anterolateral cordotomy with the cortical procedures. With respect to the former, Putnam has operated on a sufficient number of patients to demonstrate its feasibility. He has been impelled to recommend, by virtue of the serious respiratory embarrassment encountered in some of his earlier one-stage operations, that the bilateral procedure be carried out in two stages. With respect to the cerebral operations, both Bucy and Putnam have voiced the opinion that cortical ablation is not adapted to bilateral cases because of the grave motor deficiencies likely to be produced thereby. Klemme, however, has not hesitated to deal with bilateral cases. A detailed description of his end results in such cases is not available as yet. It is Klemme's present conviction that the bilateral procedure should be carried out in two stages.

(b) *Degree and Duration of Improvement.*—In anticipating the end result for a given surgical candidate, it must be borne in mind that failure in some instances to influence favorably the hyperkinesia has been recorded for both the cord and cortical operations. Within the next few years there will probably be realized a greater

acumen in the selection of cases and a more precise standardization of operative procedure so that frank failures will diminish in number. Meanwhile, it is fair to expect that the majority of patients will enjoy some degree of improvement—in Putnam's^{7b} words, "from slight to considerable." Social and economic rehabilitation cannot fairly be anticipated, although an occasional case may prove to be so restored. The likely duration of improvement is, at the present time, difficult to evaluate, since a sustained follow-up has been possible in only a few cases. Evidently, some of the cases subjected to cortical extirpation are enduringly benefited. In others, an initial improvement has given way to a recurrence. Following anterolateral cordotomy, a period of complete absence of extraneous movements is usually enjoyed, but there is apparently a tendency for the movements to return within three to six months and after a year or two they may be nearly as severe as before operation. In Oldberg's³³ opinion, extrapyramidal cord sections do not produce permanent results.

(c) *Untoward Neurophysiologic Side Effects.*—Following the extirpation of a portion of the precentral cortex a period of hemiplegia usually supervenes and, if the dominant hemisphere is attacked, aphasia also presents. In some instances epileptiform convulsions have been observed (Bucy, Klemme) during the first and second postoperative weeks. Fortunately, these are usually not permanent sequelae, although the possibility that they may prove so in an occasional case must be entertained. A frequent residuum lasting well beyond the first and second years after operation is a slight to moderate degree of spastic hemiparesis characterized by hyperreflexia and the usual upper motor neuron signs. The most common enduring sequel is a moderate to severe degree of dyspraxia. However, the disability involved here is often subjectively preferable to the ceaseless adventitious movements. As yet we do not possess dependable data concerning the effect of cortical ablation (particularly in bilateral cases) on the intellectual functions. Theoretic considerations would lead one to expect a measurable degree of dementia, but only properly conducted preoperative and postoperative intelligence tests will permit a valid answer to this important question.

Following anterolateral cordotomy, there is an initial flaccid paralysis that usually implicates the sphincters, as well as the somatic motor functions. Within two to three months the motor status usually returns to its preoperative level and then the only significant permanent residua are the deficiencies of thermal and nociceptive sensations consequent upon damage to the lateral spinothalamic tract. Aphasia, convulsions, and intellectual deficits are, of course, not involved in the cord section.

(d) *Mortality and Morbidity.*—In general.

ing operation, the more enduring sequelae become apparent—namely, dyspraxia and a moderate degree of spastic hemiparesis characterized by loss of arm swing and circumduction of the affected lower extremity in walking. Because of this circumstance, Bucy considers bilateral cortical extirpation to be hardly justifiable. It is nevertheless surprising to discover how considerable is the degree of “voluntary control” that can be regained in the human (by comparison, e.g., with the monkey) after resection of portions of areas 4 and 6.

The previously made comments bearing on the matters of postoperative convulsions and intellectual deficits following cortical extirpation for choreo-athetosis and dystonia are equally applicable in our present consideration.

Two of Mashanski's⁴³ patients were left with permanent Brown-Sequard syndromes following anterolateral cordotomy.

Following lateral pyramidal cordotomy, an initial flaccid paralysis is gradually replaced by a more lasting spastic paresis of the limbs of the homolateral side. The gait is characteristically hemiparetic. Clonus may be demonstrable at the wrist, knee, and ankle. Although the motor power of the affected limbs is reduced to between one-half and two-thirds its preoperative status, the patients are able, according to Putnam, to move the fingers individually and to write, dress, and feed. They are, however, dyspraxic for skilled acts of the more complicated sort. Aside from the described motor changes, sensory disturbances in the nature of temporary hypalgesia, hypesthesia, and dysesthesia may appear.

In the light of most traditional teachings, the recovery of the degree of motor function noted following lateral pyramidal section is distinctly unexpected. The subhuman experiments of Tower,⁷¹ Rothmann,⁶¹ and others, however, clearly demonstrate that “voluntary” impulses, in addition to being mediated over neural pathways in and near the pyramidal tracts, must also travel over other cord pathways.

The operations on the basal ganglions may be carried out without producing enduring alterations of motor, coordinative, eupraxic, sensory, speech, or intellectual functions.^{47a, 47b} This is perhaps the chief virtue of this method of surgical attack.

(d) *Mortality and Morbidity.*—Of the 17 cases subjected to anterolateral cordotomy in Mashanski's series, 3 (17.5 per cent) died. The mortality for the operation of lateral pyramidal cordotomy in Putnam's hands has been, thus far, nil. Klemme's figures of 17 per cent mortality for the operation of cortical extirpation have already been cited. There have been 2 deaths in the present writer's series. Both occurred in patients with advanced bilateral parkinsonism. The first of these had as one of his symptoms a severe dysphagia that was manifestly responsible for the aspiration of vomitus on the operating table. A bronchopneumonia led to this patient's

death on the eighth postoperative day. The second case died of bronchopneumonia two months following operation. In all likelihood, the mortality figures can and will be appreciably reduced for all three operations as a better selection of cases becomes possible and as experience widens in the technical execution of the procedure. It is likely, however, that the operations on the basal ganglions will continue to be the most formidable.

With respect to morbidity, there is little to comment beyond what has already been considered in connection with choreo-athetosis and dystonia. The matter of respiratory embarrassment does not appear so serious a threat following lateral pyramidal cordotomy as following anterolateral cordotomy. In the operations on the basal ganglions, in spite of the drainage of cerebrospinal fluid and operative insult to tissues close to the hypothalamic nuclei, no physiologic disturbances other than those routinely met following intracranial procedures have been encountered.

III. Tics, Spasms, Myoclonus, Intractable Hiccup and Spastic Palsy

As previously indicated, it is doubtful whether the notion that these conditions are extrapyramidal diseases can be substantiated. However, inasmuch as they are so considered by some writers, their surgical therapy will be briefly dealt with here.

Since 1890, facial tics and other facial spasms—unilateral and bilateral—have been treated by interruption of the seventh nerve in its extracranial course.^{9, 21, 25, 39, 41, 64} The resulting facial palsy, although itself disfiguring, appears to be preferred by some patients to the involuntary grimaces.

Little success has attended the numerous efforts to treat spasmodic torticollis by sternomastoid tenotomy, cervical plaster casts, multiple myotomy, and other orthopaedic measures.¹⁷ Since Keen's³⁷ report in 1891, however, this condition has been frequently treated^{10, 17, 22, 31, 42} by interruption of the spinal accessory nerve and section of the dorsal and/or ventral roots of the upper three cervical nerves. Although the procedure implies a rather considerable postoperative motor deficit and is not uniformly successful in its end results, it is seemingly the most effective of the several operations advocated for spasmodic torticollis. Later workers have modified the procedure in certain minor respects—e.g., by cutting the eleventh nerve intramenigeally⁴² rather than extracranially and by injecting alcohol into the nerve trunks rather than anatomically dividing them. The procedure has been advantageously employed

and 5 were bilateral cases. Altogether, 13 operations have been carried out on these patients: extirpation of the head of the caudate nucleus in 3 instances;^{3,47a} extirpation of the head of the caudate nucleus and interruption of the fibers coursing in the oral half to three-fourths of the anterior limb of the internal capsule in 4 instances; extirpation of the head of the caudate nucleus and oral thirds of the putamen and globus pallidus (Crus II) and interruption of the fibers running in the oral fourth of the anterior limb of the internal capsule in 1 instance; and section of the pallidofugal fibers (ansa lenticularis, fasciculus lenticularis, and "fine fibers" of Papez) in 5 instances. For each of these procedures it has been possible to demonstrate an obvious improvement with respect to tremors and rigidity. The qualifications bearing reference to their relative merits will be dealt with shortly. In general, however, the procedure of pallidofugal section, aside from being technically the simplest of the operations on the basal ganglia and the most susceptible of standardization, is seemingly the most effective. By this procedure tremors may be entirely abolished or reduced to a slightly perceptible degree, and the rigidity factor may be reduced from one-half to one-third of its previous level. There is observable a corresponding improvement in eupraxic functions and in automatic associated acts.

In the case subjected to extirpation of portions of the caudate nucleus, putamen, and globus pallidus, both the unilateral tremors and a severe festination were abolished. A monoplegia of the left upper extremity supervened following this operation, seemingly the result of damage to the blood supply of the genu of the internal capsule as it traverses the bed of the putamen. From this monoplegia the patient has been making a steady and effective recovery, although a paresis is still evident. For this reason it has been deemed unwise to employ this particular procedure in subsequent cases.

The Present Surgical Outlook

The operations directed against paralysis agitans will be considered under the same headings as those used in connection with choreo-athetosis and dystonia.

(a) *Applicability.*—Much that has been observed in our earlier generalizations on the applicability of surgical measures to cases of choreo-athetosis and dystonia holds with equal validity in connection with paralysis agitans and therefore requires no reiteration here.

With reference to bilateral cases, it would seem equally feasible to employ section of the lateral pyramidal tract, cortical ablation, or section of the pallidofugal fibers. A two-stage operation is clearly indicated for the cortical procedure. It may, however, ultimately prove practicable to execute the operation of bilateral pyramidal tract section and of bilateral pallidofugal section

in one stage. Putnam has not as yet applied the pyramidal section to bilateral cases. In a single case the present writer sectioned the pallidofugal fibers bilaterally at one procedure. Unfortunately, this patient died on the eighth postoperative day of an aspiration pneumonia, so that while the relation of the particular operative procedure to the end result in this instance is dubious it is not possible to subscribe without reserve to the propriety of doing both sides at once. For the present a two-stage procedure seems indicated.

(b) *Degree and Duration of Improvement.*—

In general, it is reasonable to anticipate an appreciable degree of improvement, if not effectual abolition, of the tremors of paralysis agitans following the application of each of the three operative procedures described. Rigidity also may be expected to diminish. Economic and social rehabilitation has been realized in a few cases, but it is not regularly to be anticipated. It must be recognized that for each operation improvement has not been achieved in certain cases. Thus, Mashanskij⁴⁸ recorded 7 failures following anterolateral cordotomy. Putnam⁴⁹ found it necessary to reoperate upon some of his cases because the original section of the lateral pyramidal tract did not appear to be deep enough. A proper future standardization of procedure will undoubtedly eliminate this circumstance. Putnam has also reported failure favorably to modify alternating tremors in 1 case subjected to extirpation of area 8 of the precentral cortex. In addition, he has cited failures by cortical extirpation in the hands of White and of Sussmann. Among the writer's cases subjected to operations on the basal ganglia, 1 patient presenting a severe bilateral parkinsonism eventually proved to be a therapeutic failure. Following extirpation of the head of the right caudate nucleus, this patient enjoyed for over three months a marked reduction in the tremors and rigidity of the left-sided limbs. When the head of the left caudate nucleus was extirpated, however, not only did the tremors of the right side continue unabated but those of the left side reappeared, although never quite reaching their former vigor.

It is not to be anticipated that tremors of the head, jaw, and tongue will be influenced by lateral pyramidal cordotomy.

Insofar as permanency of improvement is concerned, little can be said at present in view of the fact that not sufficient time has elapsed to permit a proper follow-up. Initial improvement has been maintained for as much as two or more years in several of the older cases in each operative series.

(c) *Untoward Neurophysiologic Side Effects.*

Following the extirpation of portions of the precentral cortex, a contralateral hemiplegia usually supervenes. If the dominant hemisphere is attacked, aphasia is to be expected. As these conditions recede during the early weeks follow-

"due to" disease of the basal ganglions. We do possess information, however, that allows us to regard the neural circuits of choreo-athetosis as passing through the precentral cortex (whatever the origin of the abnormal impulses) and, without availing themselves of the pallidofugal system, as reaching their final common pathways by way of the anterolateral columns of the cord. By contrast, the impulses mediating the tremors of parkinsonism may be conceived of as passing through the precentral cortex (whatever their origin), coursing along the fibers in the anterior three-fourths of the anterior limb of the internal capsule; implicating—in a manner not yet clearly understood—the caudate nucleus, putamen, and globus pallidus; passing along the pallidofugal fibers; and reaching their final common pathways by way of the pyramidal tracts or other fibers running in close anatomic relation to them.

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by Putnam^{57d,57e} as a supplement to anterolateral cordotomy in the treatment of those cases of athetosis and dystonia presenting extraneous movements of the neck as well as of the trunk and extremities.

An occasional sequel to encephalitis is encountered in the form of a severe and uncontrollable hyperkinesia of the tongue (e.g., myoclonus). Ingebrigsten⁵⁵ recently reported on a case in which an almost complete abolition of the aberrant tongue movements was achieved by loosening the genioglossus muscles from their attachments to the mandible.

Intractable hiccup, also an occasional complication of, or sequel to, encephalitis, has been successfully dealt with by phrenicectomy and phrenicexeresis.^{5,36,55} The operation may be carried out unilaterally or bilaterally and in most instances with a reasonable expectancy of success.

Certain of the syndromes loosely referred to as cerebral spastic palsies appear to be benefited by the operation of dorsal rhizotomy as advocated by Foerster.^{19a} The rationale of this procedure rests on the concept that the spastic state of the affected muscles is in part maintained by the proprioceptive impulses recruited from the contracting muscles and stretched tendons themselves. The "cutting down" of these centripetal kinesthetic impulses by dorsal root section reduces the neural discharges along the corresponding final common pathways and so mitigates the muscle spasm. Unfortunately, other sensory modalities than proprioceptive must be incidentally sacrificed by dorsal rhizotomy and, inasmuch as motor control is so largely dependent upon afferent impulses, it, too, necessarily suffers from the procedure of rhizotomy. It is none the less highly valuable, particularly in those cases where the contractures are painful, to be able to resort to Foerster's procedure. A warning against too extensive resection of dorsal roots is in order lest the patient be exposed to dangers of serious trophic skin changes.

It has been demonstrated that the operation of sympathetic ramisectomy, first advocated by Hunter^{30a-c} and Royle⁶² in the treatment of spastic palsy, rests on false theoretic premises and that it is for practical purposes wholly ineffective. In addition, Bucy^{4a} has shown that spastic paraplegias in man cannot be favorably modified by ventromedian (vestibulospinal) cordotomy.

Insofar as mortality and morbidity are concerned, all the operative procedures referred to under the present heading may be

carried out with relative impunity. The greatest disadvantage attaching to them is the incidental sacrifice of motor, sensory, and coordinative functions.

The Pathophysiologic Mechanisms of Choreo-Athetosis and Paralysis Agitans

The data derived from a study of patients subjected to the various operative procedures listed above make it clear that the neural mechanisms subtending choreo-athetosis on the one hand and parkinsonism on the other are quite distinct. Thus, anterolateral cordotomy is effective for the former but ineffective for the latter; pallidofugal section is effective for paralysis agitans but ineffective for choreo-athetosis. It is equally clear that many of the "release" hypotheses of the pathogenesis of chorea, athetosis, and paralysis agitans are untenable, inasmuch as the operations in which parts of the caudate nucleus, putamen and globus pallidus, and section of the pallidofugal fibers are removed do not result in the "escape" of lower motor mechanisms manifest as hyperkinesia. Confirmation of the latter observations in the human is to be found in Kennard's³³ work on the basal ganglions of the monkey.

The only region at which both disease processes have been demonstrated to share common anatomic ground is at the cortical level. This is not surprising, however, when it is reflected that the cortex of the telencephalon represents the dominant pole of all physiologic gradients and that disruption of functional patterns at this level is regularly followed by a neural dysequilibrium of patterns (whether physiologic or pathologic) at other levels. Nothing in the data at present available permits us to say that the hyperkinesia of choreo-athetosis or of paralysis agitans takes its origin from the cortex. The most that may be said is that the neural circuits operating to produce these extraneous movements are in part mediated by the precentral cortex and that they are in this sense dependent to a considerable degree upon the integrity of the precentral cortex. Furthermore, presumptive evidence derived from the study of the electric potentials of the caudate nucleus in parkinsonism is at hand to indicate that the tremors of paralysis agitans do not originate in this structure.^{4b} The weight of pathologic evidence to the contrary notwithstanding, we do not at present possess data of a sort which permits the unequivocal assertion that the manifestations of parkinsonism are

"due to" disease of the basal ganglions. We do possess information, however, that allows us to regard the neural circuits of choreo-athetosis as passing through the precentral cortex (whatever the origin of the abnormal impulses) and, without availing themselves of the pallidofugal system, as reaching their final common pathways by way of the antero-lateral columns of the cord. By contrast, the impulses mediating the tremors of parkinsonism may be conceived of as passing through the precentral cortex (whatever their origin), coursing along the fibers in the anterior three-fourths of the anterior limb of the internal capsule; implicating—in a manner not yet clearly understood—the caudate nucleus, putamen, and globus pallidus; passing along the pallidofugal fibers; and reaching their final common pathways by way of the pyramidal tracts or other fibers running in close anatomic relation to them.

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by Putnam^{57d, 57e} as a supplement to anterolateral cordotomy in the treatment of those cases of athetosis and dystonia presenting extraneous movements of the neck as well as of the trunk and extremities.

An occasional sequel to encephalitis is encountered in the form of a severe and uncontrollable hyperkinesia of the tongue (e.g., myoclonus). Ingebrigtsen⁵⁸ recently reported on a case in which an almost complete abolition of the aberrant tongue movements was achieved by loosening the genioglossus muscles from their attachments to the mandible.

Intractable hiccup, also an occasional complication of, or sequel to, encephalitis, has been successfully dealt with by phrenicectomy and phrenicexeresis.^{5, 36, 55} The operation may be carried out unilaterally or bilaterally and in most instances with a reasonable expectancy of success.

Certain of the syndromes loosely referred to as cerebral spastic palsies appear to be benefited by the operation of dorsal rhizotomy as advocated by Foerster.^{15a} The rationale of this procedure rests on the concept that the spastic state of the affected muscles is in part maintained by the proprioceptive impulses recruited from the contracting muscles and stretched tendons themselves. The "cutting down" of these centripetal kinesthetic impulses by dorsal root section reduces the neural discharges along the corresponding final common pathways and so mitigates the muscle spasm. Unfortunately, other sensory modalities than proprioceptive must be incidentally sacrificed by dorsal rhizotomy and, inasmuch as motor control is so largely dependent upon afferent impulses, it, too, necessarily suffers from the procedure of rhizotomy. It is none the less highly valuable, particularly in those cases where the contractions are painful, to be able to resort to Foerster's procedure. A warning against too extensive resection of dorsal roots is in order lest the patient be exposed to dangers of serious trophic skin changes.

It has been demonstrated that the operation of sympathetic ramisectomy, first advocated by Hunter^{59a-c} and Royle⁶² in the treatment of spastic palsy, rests on false theoretic premises and that it is for practical purposes wholly ineffective. In addition, Bucy⁴⁹ has shown that spastic paraplegias in man cannot be favorably modified by ventromedian (vestibulospinal) cordotomy.

Insofar as mortality and morbidity are concerned, all the operative procedures referred to under the present heading may be

carried out with relative impunity. The greatest disadvantage attaching to them is the incidental sacrifice of motor, sensory, and coordinative functions.

The Pathophysiologic Mechanisms of Choreo-Athetosis and Paralysis Agitans

The data derived from a study of patients subjected to the various operative procedures listed above make it clear that the neural mechanisms subtending choreo-athetosis on the one hand and parkinsonism on the other are quite distinct. Thus, anterolateral cordotomy is effective for the former but ineffective for the latter; pallidofugal section is effective for paralysis agitans but ineffective for choreo-athetosis. It is equally clear that many of the "release" hypotheses of the pathogenesis of chorea, athetosis, and paralysis agitans are untenable, inasmuch as the operations in which parts of the caudate nucleus, putamen and globus pallidus, and section of the pallidofugal fibers are removed do not result in the "escape" of lower motor mechanisms manifest as hyperkinesia. Confirmation of the latter observations in the human is to be found in Kennard's³³ work on the basal ganglions of the monkey.

The only region at which both disease processes have been demonstrated to share common anatomic ground is at the cortical level. This is not surprising, however, when it is reflected that the cortex of the telencephalon represents the dominant pole of all physiologic gradients and that disruption of functional patterns at this level is regularly followed by a neural dysequilibrium of patterns (whether physiologic or pathologic) at other levels. Nothing in the data at present available permits us to say that the hyperkinesia of choreo-athetosis or of paralysis agitans takes its origin from the cortex. The most that may be said is that the neural circuits operating to produce these extraneous movements are in part mediated by the precentral cortex and that they are in this sense dependent to a considerable degree upon the integrity of the precentral cortex. Furthermore, presumptive evidence derived from the study of the electric potentials of the caudate nucleus in parkinsonism is at hand to indicate that the tremors of paralysis agitans do not originate in this structure.^{47b} The weight of pathologic evidence to the contrary notwithstanding, we do not at present possess data of a sort which permits the unequivocal assertion that the manifestations of parkinsonism are

ing infection but was discontinued as the nature of the lesion became apparent.

About thirty-six hours later, the skin covering the distal two phalanges of the toe became dusky, then black. The next day the bone was exposed, which was also black. After a line of demarcation was reached, the gangrenous portion of the toe was amputated, and the patient was discharged in good condition. There was no evidence at any time of peripheral vascular disease, and there has been none since. The skin temperature of the fingers and toes is normal at the present time.

Comment

The volume of the anesthetic used (2 cc.) could not have caused undue pressure. The anesthetic was injected properly, according to aseptic technic, after a large experience in local anesthesia in the surgical clinic of a voluntary hospital. A perusal of the *Cumulative Medical Index*¹ lists many of these cases as due to the epinephrine content of this mixture when injected into the fingers and toes. These organs having end arteries and being richly supplied with autonomic nerves are sensitive to the injection of spasmogenic drugs. There is also much evidence that epinephrine lowers the oxidation of tissues nourished by vessels into which it is injected. A tissue already handicapped by infection and operation has, thus, an added load to carry.

Experimental Study

The above incident suggested that an attempt be made to see if the complication could be reproduced experimentally. In these experiments where the tails of healthy male rats were injected, the tail was assumed to be analogous in its blood supply to a finger or toe, since it also is an end organ.

Thirty male rats, each weighing approximately 250 Gm., were injected with 1 and 2 per cent procaine with and without epinephrine in the concentrations marketed, as well as with normal saline and with $1/10,000$ epinephrine. One cubic centimeter was injected with sterile precautions in the soft tissue at the base of the tail, subcutaneously, at four puncture sites around the organ, much the same as recommended for human surgery. Table 1 shows the results. Three rats were injected with each solution. None of the animals died. No cases of gangrene of the tail were found in the rats injected with either 1 or 2 per cent procaine or with normal saline. Of the remaining 21 rats, 10 developed gangrene of the tips of the tails within thirty-six hours. Several rats de-

TABLE 1

Solutions Used	Rats with Gangrenous Tails
1 per cent procaine	None
2 per cent procaine	None
Normal saline	None
1 per cent procaine, $1/100,000$ epinephrine	1
1 per cent procaine, $1/50,000$ epinephrine	2
1 per cent procaine, $1/20,000$ epinephrine	2
2 per cent procaine, $1/100,000$ epinephrine	1
2 per cent procaine, $1/50,000$ epinephrine	1
2 per cent procaine, $1/20,000$ epinephrine	2
$1/10,000$ epinephrine	2

veloped a falling out of hair at the tip of the tail. If these results are counted (and the occurred with a concentration of epinephrine as little as $1/100,000$), the number of rat's tails affected is increased by three.

The question might well arise as to why the rats did not show gangrene after injection with epinephrine. The probable answer to that, would be that there may be peculiarities in individual cases with respect to collateral circulation and as to the exact site of injection. However, the fact that the injection could cause gangrene in a concentration as low as $1/100,000$ is instructive.

Comment.—There has recently appeared an interesting article that probably has some bearing on the physiologic basis of the above experiment. Cammer and Griffith² have studied the effect of the intra-arterial injection of epinephrine on blood flow and respiratory exchange of the resting intact hind leg of the cat. When an appreciable concentration of epinephrine was injected intrarterially, blood flow and oxygen utilization were significantly decreased. This shows that cellular oxidation occurs at a lower level during the injection. Subcutaneous injection, without a doubt, has a similar but more prolonged disturbance on blood flow and oxygen utilization. With a lowered maintenance of cellular oxidation, tissue morbidity and tissue death can occur in an organ already weakened by infection and operation. In the quoted paper an almost exactly similar reduction of blood flow and oxygen utilization was produced by a low concentration of epinephrine as by a concentration two hundred times as great. This fact leaves open to doubt the wisdom of using epinephrine even in the weakest dilution in our anesthetic solutions for operation on organs having end arteries.

Summary

A case of gangrene of the toe following the use of a procaine-epinephrine solution for anesthesia is reported.

GANGRENE OF THE TOE, FOLLOWING LOCAL ANESTHESIA WITH PROCAINE-EPINEPHRINE SOLUTION

A Clinical and Experimental Study

LOUIS PELNER, M.D., Brooklyn

RECENTLY, there came to my attention a complication of a minor surgical operation which could have been avoided had the literature been widely known.

Gangrene of the finger or toe following injection of a procaine-epinephrine solution for local anesthesia preparatory to a minor surgical operation has not been stressed in the American literature, although the literature of the rest of the world is replete with the discussion of this complication.¹ That the offending agent is the epinephrine is fairly well agreed upon, since there is no such trouble found with the use of procaine solution alone.

The excellent textbook, *Minor Surgery*, by Christopher² quotes Baran's article in the *J.A.M.A.* and states:

"A very definite warning should be given in regard to the use of epinephrine in too great concentrations. Epinephrine, in what apparently is a very weak solution, is capable of producing necrosis of the tissues. I have not seen necrosis when the epinephrine has been 1:100,000, that is, one drop to a hundred drops of procaine. I believe, on the whole, however, that a safer rule would be 1:200,000, which would be 1 drop to 200 drops of the procaine solution. It is now possible to obtain commercial ampules of procaine of different strengths and amounts and with or without epinephrine or ephedrine."

These commercial preparations of procaine and epinephrine are put up by reputable firms and are so widely used that it is safe to say that there is not a physician in practice who does not at some time use them.

These ampules are made ready for use in concentrations of 1 and 2 per cent procaine and with $\frac{1}{20,000}$, $\frac{1}{50,000}$, and $\frac{1}{100,000}$ epinephrine. One large manufacturer issues a fine booklet on minor surgery where all of these preparations are suggested for use in the operations involving fingers and toes.

Extemporaneous solutions made by the nurse in the operating room and measured off in drops of epinephrine would probably contain much greater concentrations of epinephrine than even the great concentrations put up ready for use.

My contention, after reviewing the literature and after consultations with several surgeons who have had previous knowledge of the complications about to be described, is that epinephrine should not be used in operations involving the fingers and toes or should be used in minute concentrations, smaller than any recommended for this use by the manufacturer. Certain animal experiments to be described later suggest that it should not be used at all in certain structures having terminal circulations.

The advantages of epinephrine are that it allows for slower absorption of the local anesthetic and, thus, prolongs its action, as well as reduces the bleeding of the part. These are far outweighed by its tendency to produce local tissue death or morbidity.

Why are there not more cases described with this complication, which is certainly not so rare as the paucity of literature would make us believe? First, it is because gangrene is not always the outcome of a mild tissue injury. Many of us have experienced so-called "slow healing" finger infections postoperatively, where, after a time of impending necrosis, bountiful Nature comes to our aid after a short time. Second, one is not usually proud, for personal and legal reasons, to talk of one's failures.

Case Report

A. J., a healthy male adult, aged 30, in good physical condition, came in as an outpatient for the removal of an ingrown toenail on the big toe of the left foot. There were no other complaints. Local anesthesia with a procaine-epinephrine solution ampule (1 per cent procaine and $\frac{1}{50,000}$ epinephrine) was accomplished in the usual way—by subcutaneous injection around the base of the toe. Two cubic centimeters were used in the entire operation, and no tourniquet was used. Operation was accomplished without incident. A small rubber drain was inserted and a dressing was applied; no pain was felt.

About four hours later the patient was seen in extreme pain. There were several tremendous black and blue blebs over the entire toe, which were associated with intolerable pain. The patient was hospitalized. Sulfanilamide was given with the idea that this was a spread-

Diagnosis

CLINICOPATHOLOGIC CONFERENCES

DEPARTMENTS OF MEDICINE AND PATHOLOGY, NEW YORK POST-GRADUATE
MEDICAL SCHOOL AND HOSPITAL, COLUMBIA UNIVERSITY

Date: January 20, 1942

Presiding: Dr. Irving S. Wright

History (Case J 60703)

DR. MAURICE BRUGER: This patient was a 59-year-old engineer formerly employed in a Chilean copper mine. He died four weeks after his first admission to the New York Post-Graduate Hospital. The chief complaints on admission were a persistently rapid pulse rate of six years' duration, dull occipital headaches of four months' duration, and vertigo associated with nausea and vomiting of ten days' duration. There was also diminution of vision of the left eye progressing to blindness during the preceding month.

The patient had been perfectly well until six years previously when he experienced an attack of diplopia which cleared spontaneously after three or four days. Shortly thereafter, he noted his pulse rate was constantly elevated. This was, however, not associated with dyspnea, orthopnea, precordial pain, or ankle edema. With the exception of the tachycardia the patient did well until the onset of the occipital headaches which were constant but relieved for four to five hours by salicylates. Shortly after the onset of the headaches, another attack of diplopia occurred. Two months previous to hospitalization he experienced a transient episode resembling a generalized convulsion without loss of consciousness. About a month before admission he complained of crampy, left-sided abdominal pain, which disappeared after the passage of flatus and feces. On the following day he noted impaired vision, which progressed until at the time of admission his left eye was totally blind. During a boat trip from Chile, he noted dizziness accompanied by nausea and vomiting when he changed the position of his head, and this persisted.

The patient was born in the United States but for the past twenty years had been a resident of Chile. During the previous year there had been a weight loss of about 20 pounds. There was no history of malaria or jaundice, and syphilis was denied. About twenty years ago the patient had a bout of undiagnosed hyperpyrexia and during the

same year passed a tapeworm in his stool.

On physical examination the patient was found to be a well-developed white man lying in bed with his head turned to the left. The left pupil was larger than the right and failed to react to light. It reacted consensually and to accommodation. There was limitation of the internal rotation of both eyes, with nystagmus more marked when looking to the right. Examination of the eyegrounds showed the disk in the left eye to be pale and indistinct in outline. There was a slight but definite left exophthalmos, which was interpreted by the ophthalmologist as being due to pressure behind the eyeball. Examination of the psychologic status revealed the patient to be intelligent and cooperative. The following positive neurologic findings were noted: Patient fell to the left during the Romberg test; the left toes were dragged in walking; there were increased tendon reflexes in the left arm and leg; moderate dysmetria in the finger to nose test was present as was a bilateral nystagmus (more marked to the right). Physical examination was otherwise essentially negative. Blood pressure was 122/82.

Laboratory Data.—Urinalysis: specific gravity, 1.030; negative for protein, sugar, cells, and casts. The blood count was normal; blood chemical studies were normal; the blood Wassermann reaction was negative. Spinal fluid examination revealed slightly xanthochromic fluid; no cells were found. The spinal fluid protein was 178.5 mg. per hundred cubic centimeters. The spinal fluid Wassermann was negative and the colloidal gold curve was 2,3,4,5,5,4,3,2,1,1,1,0. The electrocardiogram showed a nodal tachycardia with a rate of 142. An x-ray of the chest showed a small nodular mass 2 cm. in diameter in the posterior left costophrenic sinus, associated with moderate pleural thickening in this area. A film repeated eight days later showed the condition to be unchanged. An x-ray of the skull showed an increase in the soft tissue density of the left orbit and some clouding of the left ethmoid. Visualization of the optic foramina showed soft tissue tumefaction.

While in the hospital, flattening of the right

Some experimental evidence is adduced to show that it is the epinephrine in the mixture that caused the complication. An opinion is ventured that epinephrine should not be used in the anesthetic mixture in any concentration for operations on the fingers and toes.

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MEDICAL EXPENSE FUND GOING TO TOWN

The present disruption of our social, political, and economic structures is presenting grave problems to medicine and will leave in its wake problems even graver—problems that should be solved now while there is yet time.

The agitation for governmental medicine, while temporarily shelved, will be renewed full force when the time arrives for getting the nation back on a peace footing at the close of the war. The medical profession, including the Nassau County Medical Society, is united in the feeling that the problem can best be solved through voluntary medical expense indemnity plans under medical supervision and that such a solution will be better for the patients as well as for the physicians than some scheme under political control.

The county society has approved the program of the Medical Expense Fund of New York. This organization is actually selling policies in Nassau County and to Nassau County residents employed elsewhere. We have a real, present opportunity to demonstrate that such a plan will work, but it can only work with the full cooperation of all the practitioners of the county. The

majority of our members have joined the plan as participating physicians; the others should do so at once.

The Franklin Square National Bank has pioneered in a sales program which is now being taken up by other banks throughout the metropolitan area. Under this plan the bank, without profit to itself or expense to subscribers, will enroll members in the fund and handle the remittance of premium. This makes it easy for anyone to secure the protection of a policy in the fund and will doubtless add many names to the list of Nassau County residents who will be coming to local doctors for medical care under the terms of their policies.

The Fund has recently announced a Family Policy, which is being well received and enables them to offer complete family coverage.

We urge the members of this society to: (1) become a participating physician, (2) take out a family policy for himself, (3) talk about the Fund to their patients, (4) handle all medical reports promptly so the Fund can keep its services rolling smoothly.—*Nassau Medical News*

FIRST-AID INSTRUCTION BY PHONOGRAPHS

At a meeting of the Society for Medical Jurisprudence held at The New York Academy of Medicine in February, the ninth anniversary of the Society for the Prevention of Asphyxial Death, Inc., was celebrated. The coordination of gases used therapeutically was discussed. It was urged that a department of pneumatology be established in every hospital for purposes of Civilian Defense. Such a department under the direction of the physician anesthetist would automatically afford facilities for asphyxia prevention outside, as well as inside, the hospital.

Dr. P. J. Flagg, director of the Society, announced that an effort was under way to meet the present dearth of first-aid instructors by supplying electric recordings free, at the earliest possible date, to at least 1,000 groups now preparing themselves in various parts of the country. It is extremely difficult, Dr. Flagg pointed

out, to secure overnight large numbers of people who are accustomed to think and to talk on their feet in public. On the other hand, such persons aided by electric transcriptions, providing a suitable standard background, can serve effectively as demonstrators, bringing home to the student the written word of the instruction booklet and the spoken word of the electric transcription. To make possible the project contemplated, the free distribution of 30,000 to 40,000 recordings, a fund of \$10,000 is needed. This fund will be utilized to provide the widest possible distribution at low cost. Contributions of any amount will be received and utilized as far as possible. Sets of eight recordings on the subject of resuscitation are now available. These sets retail at \$3.50 each and are to be had at your music store or at the office of the Secretary of S. P. A. D., 38 East 61st Street, New York.

would be worthwhile to read Bruns's and many other descriptions of similar cases.

Dr. Eidelsberg's Diagnoses

1. Cysticercus disease of the brain.
2. Bronchopneumonia.

Pathology:

DR. MAURICE N. RICHTER: With regard to the clinical diagnosis of brain tumor, it is worth noting that although lung tumors frequently metastasize to the brain, brain tumors do not metastasize to the lungs.

The principal lesions in this case are in the brain, the left optic nerve, and the lung.

The lesions in the brain are nodular, necrotic, friable areas in the left precentral gyrus, the left superior temporal gyrus, the right occipital lobe in the region of calcarine fissure, and the vermis, where a large mass replaces the cerebellar nuclei except for a portion of the left dentate nucleus. This mass reaches the tegmen of the fourth ventricle. Slight dilatation of the third ventricle and the aqueduct of Sylvius are found. The left optic nerve is markedly thickened and, at its thickest point, is 0.9 cm. in diameter.

The lesion in the lung is at the costophrenic margin of the left lung. It consists of a nodule, 4.3 by 3.5 by 2.5 cm., which is firm, grayish white, sharply defined from the surrounding lung tissue.

Microscopically, the lesions of the brain are unlike any recognized tumor. They consist of necrotic areas, with cellular infiltration associated with them, in the brain and the adjacent meninges. The cells are not always easily identified, but some are obviously lymphocytes and plasma cells. These cells bear no characteristic relation to the areas of necrosis, but in the neighboring brain tissue there is extensive perivascular infiltration with lymphocytes and plasma cells. No giant cells are found.

The optic nerve is involved in a similar necrotic and inflammatory process. The nerve bundles in the central part are necrotic. The cellular infiltration is similar to that in the cortical lesions.

The nodule in the lung is also necrotic. Here the process is more readily recognized. The central necrotic area has no recognizable cells, but the outlines of alveoli and blood vessels are still discernible. Elastic fibers of the vessel walls are readily demonstrable by suitable staining methods. Around the necrotic area is a dense wall of lymphocytes and

plasma cells. Giant cells are not encountered. This lesion we consider to be a gumma.

After a study of the several lesions in this case, we believe that all are on the same basis. While it is obvious that the brain lesions are inflammatory rather than neoplastic, it is not easy to prove beyond doubt that they are syphilitic. In this, the characteristic gummatous process in the lung is of considerable help. Numerous sections were stained by Levaditi's method for *Treponema pallidum* and by Steiner's modification, but no organisms could be demonstrated. However, we think a diagnosis of syphilis warranted on the basis of the histologic changes, in spite of the negative blood and spinal fluid Wassermann reactions. The other lesions in the case are only of minor importance.

Anatomic Diagnoses

Syphilis of brain (cerebral and cerebellar cortices).

Syphilis of optic nerve, left.

Syphilis of lung, left lower lobe.

Internal hydrocephalus.

Lobular pneumonia, right lower lobe and left lower lobe.

DR. EIDELSBURG: Undoubtedly this is an exceptional case. It emphasizes how difficult the diagnosis of syphilis may be clinically, if not also pathologically. The diagnosis of syphilis and gumma cerebri in the absence of history, positive serology, aortic disease, and so on, makes clinical reasoning feel its futility on such occasions. However, if it were impossible to arrive at such a conclusion clinically, it was also none too easy for the pathologist even when the lesions were in his grasp or on the slide.

DR. RICHTER: In the description of this case I have indicated the difficulty of proving the syphilitic nature of the process. In view of the discussion, a further statement is necessary. It is seldom that we are able to demonstrate organisms in gummas. The diagnosis is usually based on the morphology of the lesion, without demonstration of the inciting cause. It is possible for the lesions of *C. cellulosa* to simulate gummas. However, in this case the necrotic areas are not the result of degeneration of a parasitic cyst but of the tissues of the organs involved. As mentioned in connection with the lung lesion, the necrosis involves actual lung tissue, of which certain details can still be recognized. While we cannot prove beyond doubt that it is syphilis, we can be reasonably certain that it is not

side of the face was noted and the neurologic status continued to change. Bilateral Babinski reflexes appeared, the hyperreflexia on the left side increased, and the tongue deviated to the right. The patient gradually weakened and became semicomatose. On the twenty-second day of hospitalization, papilledema and hemorrhages in the superior temporal portion of the fundus of the left eye were noted. Bronchopneumonia developed and the patient expired.

Discussion

DR. JOSEPH EIDELSBURG: First, I want to state that this is an unusual syndrome. I do not know why, but for the fourth time at these conferences I have been given a neurologic problem. It emphasizes, however, that neurology and internal medicine cannot be divorced. The review of this case impressed me with the number and diversity of the signs and symptoms. I would, therefore, like to analyze and present it my own way.

When faced with such a multiplicity of neurologic findings, our first problem is to try to localize the lesion or the lesions. No one lesion could possibly give all the signs and symptoms enumerated in the history. Even an amateur neurologist like myself would know that the lesions must be multiple and disseminated.

Now let us group the following findings: a transient, recurrent diplopia, impaired vision leading to blindness of the left eye, inequality of the pupils, and an x-ray of the skull which showed a shadow in the orbit. If we take this group of symptoms and try to localize the lesion responsible for them, we may consider two locations: one, a lesion in the orbit possibly extending within the skull and, second, a lesion involving the optic nerve.

A second group of findings consists of occipital headache, vertigo, nausea, vomiting, nystagmus, a positive Romberg test, and dysmetria. This group of symptoms is typical of a lesion of the fourth ventricle or cerebellum and is also known under the name of Bruns's syndrome.

We have a third group of findings which we have not explained. These consist of a deviation of the tongue to the right and paralysis of the right side of the face. Also unexplained is a weakness on the left side of the body. These may possibly be explained by a lesion in the medulla or in the pons.

Now, although these three lesions include a multiplicity of signs, the tachycardia is still

unexplained. We are, however, close to the nucleus of the vagus nerve. We do not have any other signs to prove that a lesion exists here.

Having thus placed our lesions, the question is what one disease can produce these findings? I believe that in making a diagnosis, one should try to find the disease that covers all the symptoms and signs or, at least, the greater number of them. I have omitted the bronchopneumonia because I feel that this was not the primary cause of death. Are we dealing with a degenerative or neoplastic disease in this patient? Syphilis and tuberculosis are great imitators of many types of pathology. Could he not have had gummas in these various places? Against this is the fact that he had a negative Wasserman in the blood and spinal fluid. There was no history of a chancre and no signs of syphilitic aortitis. Can tuberculosis cause so complex a picture? We have no history or clinical findings of tuberculosis. I am inclined to feel that the diagnosis of tuberculosis may be excluded in this case because of the absence of cough and other confirmatory evidence of tuberculosis. Disseminated sclerosis can give some of these findings. It does not, however, explain the nodular pleural mass or the xanthochromic spinal fluid.

Now let us consider new growths. Because of the long duration and diversity of the findings, I think that we can rule out a brain tumor, either primary or secondary. The nodule in the lung does not resemble carcinoma.

At this point I should like to suggest another possible diagnosis—namely, cystic disease of the brain following cestode infection. This man had previously passed a tapeworm. He was employed as an engineer in a mine in Chile where sanitary conditions were probably inadequate. There are four types of cestodes that have to be considered: (1) *Taenia saginata*, which is a type that rarely gives rise to cystic disease of the brain; (2) *Bothriocephalus latum* which is rarely found in the brain; (3) *Taenia echinococcus*, which may be multiple and generally affects the liver in addition to the brain; (4) *Taenia solium*, contracted by eating contaminated pork that has not been well cooked. Following infection with this cestode, dissemination can occur to all parts of the body including the brain and lungs. When this disease invades the brain, it is known as *Cysticercus cellulosae*. This disease may adequately explain our findings and, if we had the time, it

Special Article

ORGANIZATION OF EMERGENCY MEDICAL SERVICE IN NEW YORK

GEORGE BAEHR, M.D., New York City

IT IS difficult to avoid repeating what I said yesterday on two occasions in this Academy of Medicine. Yesterday afternoon we had an audience of more than eight hundred persons crowded into Hosock Hall and another smaller audience in the evening. At that time I tried in half an hour to give a picture of the Emergency Medical Service organization and operation.

The Emergency Medical Service is directed by a Chief of Emergency Medical Service. In this city he is Dr. Edward Bernecker, general medical superintendent of hospitals, who is thoroughly familiar both with our voluntary and municipal hospitals. He was chosen because the Emergency Medical Service is organized within, or is related to, hospitals. In each borough a Borough Chief of Emergency Medical Service has been appointed by the Mayor. For this position he designated an outstanding physician who had the confidence of the medical profession—namely, the man who had been designated by the county medical society as chairman of its medical preparedness committee.

Throughout this state, Mr. Mailler, chairman of the Health Preparedness Committee of the State Defense Council, and Dr. John Bourke, executive director of that committee, have systematically recommended the chairman of the medical preparedness committee of each county medical society as the local chief of emergency medical service. This was done because we found that the county medical societies quite uniformly had selected the best men in their councils, men who were interested, thoroughly interested, and had a capacity for leadership.

That man plays an important role, because he must see that the hospitals are operating along the lines which have been outlined in Medical Division *Bulletins* Nos. 1 and 2, with which you are familiar. They have been distributed to all hospital chiefs of staff and to directors of hospitals, as well as to the state and county medical societies, and have been reprinted in the *Journal of the American Medi-*

cal Association. After December 8, the day after the Pearl Harbor attack, the A.M.A. reprinted both bulletins and redistributed them to every hospital in the United States of more than twenty-five beds. There is, therefore, no reason why everyone should not now be thoroughly familiar with the organization and the operation of the Emergency Medical Service.

Under this service, the care of civilian casualties will be handled by Emergency Medical Field Units which are organized in hospitals or, if they are organized extramurally, they should be related to hospitals. Emergency Field Units created out of the doctors and nurses practicing in the community cannot be mobilized promptly in the event of sudden and unheralded bombing. The field units related to hospitals are available for immediate service at any time of the day or night.

Emergency Medical Field Units have now been organized in eighty hospitals in this city through the efforts of your chiefs of Emergency Medical Service and Dr. Bernecker. Each is subdivided into squads of two to four doctors, an equal number of nurses, and about double that number of nursing auxiliaries. In large hospitals a number of squads will always be on call day or night. The Medical Field Units do not move when the alert is sounded; they do not move when the air-raid warning is given. They prepare for action and move out of the hospital only on a direct call of the control center.

In this city a main control center controls the operation of seven district control centers. The person in command of the main control center is Deputy Chief Inspector John J. O'Connell. His field director is Inspector Wallander, who has been in England as an observer, having been sent over by the Mayor to study this problem.

In each district control center the commander is assisted by a staff of technical experts for each of the technical fields who will assemble as soon as the alert is sounded. The fire department is represented, as well as the various public utilities and each branch of the city government which participates in

Read at The New York Academy of Medicine, December 22, 1941.

tuberculosis or cysticercus disease. I think the possibility of some other condition is rather small.

DR. WRIGHT: If we accept the pathologic diagnosis as final (and in this case it may not be without some doubt) we are reminded of the conclusion with which Delafield often terminated his course: "Above all, gentle-

men, remember that the common diseases are the common ones."

Editorial Committee

J. SCOTT BUTTERWORTH, M.D.

MAURICE R. CHASSIN, M.D.

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N. Y. ADULT EDUCATION COUNCIL

More than 2,000 organizations offer educational and recreational opportunities to the 4,500,000 adults in New York City. The New York Adult Education Council was founded in 1933 to centralize information concerning the thousands of activities offered to adults, to make that information available and useful, to help the producers of education better understand the educational needs of the public, and by conferences and consultation to bring about the co-operation among organizations that would result in better service to adults in pursuit of education.

During these eight years 75,000 adults have been given information concerning both free and fee offerings. This means that the Council file of more than 20,000 activities must be kept up to date at all times. Through trained interviewers the Council has set a high standard for this service, for its specializes in personalized help. Whether the inquirer is seeking vocational training, sports, a hobby, social activities, forums, or lectures, his personal need and his ultimate purpose are carefully considered.

The Council is located at 254 Fourth Avenue, New York. Telephone: ALgonquin 4-7150.

SYMPOSIA—DENTAL CARIES

To foster a better understanding of the dental health problem among physicians and dentists, the Maternity, Infancy and Child Hygiene Division of the New York State Department of Health, in conjunction with the State Medical Society and District Dental Societies, is sponsoring a series of three symposia on "The Control of Dental Caries" to be given in Rochester on March 31, Binghamton on April 1, and Albany on April 2.

Invitations to participate in these symposia are being extended to outstanding national authorities. It is planned to center the discussion about the three major influences which today are attracting the most thought in connection with dental caries; namely, the role of nutrition, of oral flora, and of the fluoride content of drinking water.

It is believed that these meetings should not only prove of wide interest, but that the discussion is particularly timely because of the recognition of the importance of dental caries, brought about by the findings of the Selective Service examinations.

More detailed announcements, giving the final program, the time and place of meetings, will be made to the members of the medical and dental professions in the near future.

"DEMOCRACY CARES"

"It was exactly ten years ago this month: The unmet problem of mass want was of such disheartening magnitude as to appear insoluble." These, and the following, are the words of David C. Adie, commissioner, New York State Department of Social Welfare, in the Foreword to *Democracy Cares—The Story Behind Public Assistance in New York State*. Yet, in those bleak days of November, 1931, New York became the first state in the nation to meet that challenge. And year after year since, New York State has shown the way to the prevention of need that stems from unemployment, a problem which—we now know—renews itself every day.

For years you have seen community chest posters which bear the legend: Suppose Nobody Cared!

Democracy cares!

This report shows why and how and with what results. It tells the story of Public Assistance.

It is an important story, since it concerns human beings. It is a tremendous story, because it describes the mass drama of powerful forces that

belittle and damage human beings. It is a hopeful story, for it shows we are learning to help people who need help. It is a timely story, because it identifies forces which threaten democracy from within.

There is added point in presenting this booklet today. Democracy is today taking inventory of its resources for defense. Home defense. Public Assistance is, always has been, home defense—insurance of our democratic way of life. It has ended the want and distress of millions of American men, women, and children—the social chaos upon which foreign ideologies feed and grow. Insecurity in Europe helped to produce totalitarianism—all brands. In America it produced—Public Assistance, a historic expression of democracy. The care of all is the concern of all, in the United States.

To the 13,500,000 Americans of New York State and their freely elected representatives who again played a pioneer part in making democracy work, this booklet is dedicated. In its pages is the story of what they did, how they did it, and why.

splint if it is necessary before the patient is moved.

It is the experience of the British, and previously it was the experience in Spain, that air-raid casualties are of two types: the seriously injured and apt to die and the slightly injured. Of the seriously injured about 50 per cent are killed outright or die shortly after the injury. Hence, the need for medical judgment and experience at the first-aid post if those who are still alive are to be saved. The mildly injured are walking cases who do not require hospitalization for the most part, but some place must be provided for them where they can receive medical and first-aid care and where they then can rest. They must not be permitted to clutter up the first-aid post or the admitting rooms of the hospitals. For them, casualty stations have been provided which are reasonably convenient in location and are equipped with beds, cots, blankets, and canteen service. The minor casualties and the people suffering from nervous shock and hysteria are directed to the casualty stations where there are doctors, nurses, and nurses' aides capable of taking care of them. Here they can rest and be observed long enough until it is considered safe to permit them to return to their homes or to a temporary shelter.

This gives you a brief picture of the operation of the Emergency Medical Field Units. They have been organized in this city in eighty hospitals and, I am told, have a personnel of 2,148.

The training and organization of a disciplined corps of nurses' aides is most important for service in casualty stations and first-aid posts. In Great Britain there are four nurses' aides to every nurse in the first-aid posts. That may be necessary here because the nursing services of our hospitals are badly depleted and we shall not be able to spare many nurses from our hospitals if there are large numbers of casualties. This also applies to hospital doctors.

We have organized our Emergency Field Units primarily in hospitals because we must be ready day or night for the unexpected attack. The interns and residents have, therefore, been organized under the leadership of a surgical intern or an assistant surgical resident. We advise that other surgical interns and residents be retained in the hospital for service in the operating rooms. The staff of the medical, the pediatric, the neurologic, and other nonsurgical services can be spared from the hospital at least temporarily.

But, if we should have continuous bombing for any length of time—we don't expect to have it, but we must be prepared—they must be drawn back for service in the hospital. It will then be up to the medical profession of the city to man the first-aid posts and casualty stations. The doctors of the neighborhood will take their periods of duty in the casualty stations and first-aid posts for as many hours a day as they may be called upon to serve. But we do not need them now, and it is as yet unnecessary in this area to organize them into units. The doctors in the hospital should be drilled. Hospital drills and field drills should be held every week. But if we are ever in serious trouble, all doctors in the community will be needed.

We shall also need them for what the British call the "incident" doctor who is important. He appears after an incident and reports for duty to the nearest casualty station both to assist in its work and to establish public morale. On the day after an incident, he gets a list of the casualties and visits them *not only to check on their injuries but also to make them appreciate the fact that their government is interested in them and wants them to be cared for.* After the first record is made at the casualty station, they may get their service from a private physician; if they cannot afford a private physician, they can go to the casualty station or to a hospital clinic.

People injured in air raids may ultimately have to be compensated. No provision has yet been made by the Federal Government for this purpose, but in Great Britain they have had to do it. As there is a possibility of future compensation for air-raid casualties, a record must be kept of all casualties in the first-aid posts, at the casualty stations, and in the hospitals on forms which will be supplied from the Office of Civilian Defense. Record books are already available for issue.

The city must organize a Casualty Information Service so that people who have been bombed out of their homes may locate their relatives and friends. The deputy chief of Emergency Medical Service at the district control center must know the number of casualties and of deaths and the total figures must be recorded to the main control center. A unified transport service must be available under the central control of a transport officer. A mortuary service must also be organized.

There will be need for many doctors. We

the air-raid protection service of the city. The Medical Protective Service will be represented by a deputy chief of the Emergency Medical Service. A medical deputy will also be assigned to each district control center with assistants who can relieve him at periods of the day.

I understand that the medical profession of the city is anxious to learn how doctors are going to be used in civilian defense. If they will be patient they will all be drawn into service in various ways.

At each district control center there is need for at least three doctors who can alternate in periods of service during the day whenever the control center is operating. Although they may continue to practice medicine and do their work in hospitals, they must be prepared to give four hours of service a day if the need should arise. They must be trained by the Chief of Emergency Medical Service so that they are thoroughly familiar with all the medical facilities in their district and can truly serve as the medical adjutant to the commander of district control centers. They must know the available facilities not only of the hospitals in the district but also those assigned to the district. They must also know how many medical squads are available day or night in each of the hospitals that are to man the casualty stations and the first-aid posts. As we get into action they must have a daily census of vacant hospital beds that are available to receive casualties.

It has been determined by British experience that a fairly large hospital cannot care for and operate upon more than fifty major casualties in a day, and many of our hospitals cannot handle that many. After a hospital has received almost its full quota, it notifies the control center and, thereafter, the casualty stations and first-aid posts are directed to send casualties into other more remote hospitals assigned by the main control center to the district.

A peacetime disaster usually occurs at a single site, and the person in control, the Police Commissioner, can mobilize all the fire fighting and the medical forces of the city and, if necessary, throw them all into the breach at that one point without depriving the rest of the city of essential services. But in war, when incendiary bombs or explosives are raining upon many centers throughout the city, it is necessary to work in districts in which all the facilities of that area—the medical, the fire fighting, the utilities, and all

other essential services—are under the control of the commander of the district.

When the medical squads of the hospitals move out at a command from the district commander or his medical adjutant, they proceed to specifically designated casualty stations. A spot map of the city has been made by the Chief of Emergency Medical Service, and in each of the districts there are indicated not only the hospitals and how many squads are available day and night in each one but also the sites of the casualty stations. These are clinics of hospitals and health services, district health centers, health department substations, baby health clinics, and a variety of structures that lend themselves to this purpose.

These casualty stations are numbered and the squads are directed to man one or more stations. They are equipped as described in Medical Division *Bulletin No. 2*, not for major surgery but for first-aid work.

At the casualty station one or more teams of a doctor, a nurse, and several nursing auxiliaries with their equipment may be split off and dispatched forward to establish advanced first-aid posts close up to the site of the disaster. Surgery is not done either at a casualty station or at a first-aid post if it can be avoided; it is done at the hospital to which the severe casualties must be transported by ambulance as rapidly as possible.

The first-aid post receives the severe casualties as they are extricated from the demolished building by rescue squads. The latter are auxiliaries of the fire department who have been trained in fire fighting and in demolition work and are equipped with demolition tools. They are also trained in first aid, but that is only an incidental service if no physician or first-aid post is available, their primary job being to get the injured people out of the ruins. They can then hand them over to the first-aid post, and that usually requires stretcher transportation. The rescue squads are, therefore, assisted by teams of trained volunteers called by the British "First Aid Parties"; we prefer to call them "stretcher teams" for a good reason. Their chief problem is to deliver the injured to the first-aid post. In this country, certainly in our larger cities, the first-aid work upon the seriously injured is to be done under the direction of a physician. The doctor at the first-aid post is most important, for he must decide priority in the prompt transportation of the seriously injured to the hospital. He must do whatever is essential to prevent shock. He must apply a traction

Service or from their private physicians."

If physicians attempt to set up organizations without relationship to the common plan it will impede and not help the Chief of Emer-

gency Medical Service. It will serve to confuse the public and the medical profession.*

* In view of the information on the Procurement and Assignment Service published on page 558, the section of Dr. Baehr's talk covering that subject has been deleted.—Editor.

POPULATION PROBLEMS IN JAPAN

Now that war is upon us, we can profit from more knowledge regarding our adversaries, says the *Statistical Bulletin* of the Metropolitan Life Insurance Company. What, for example, are some of the principal characteristics of the population of Japan?

On a relatively barren, mountainous group of islands, not quite equal to California in area, Japan sustains the life of more than 73,000,000 persons. The population density is 490 per square mile, more than 10 times that of the United States. This in itself does not necessarily involve any great hardship; other nations which make no great complaint of overpopulation live under conditions of much greater density—as, for 700 inhabitants per sq with 706. These are h : ions which largely import their foodstuffs while exporting manufactured goods.

The soil of Japan does not produce enough food to maintain the life and health of its people on a high standard. Actually, more than 10 per cent of the rice consumed in Japan is imported. Industrial organization has made remarkable strides in past decades, but it is far from sufficient to raise the standard of living to the levels we take for granted for ourselves. Encouragement by the government to relieve the population pressure by emigration to Japanese colonies has met with little success. Further development of Japan's industries would seem to be the first and natural remedy for her population problem, though she is seriously handicapped by lack of raw materials, in particular coal, oil, and iron.

To appreciate present conditions in Japan, it is necessary to make a survey of the recent past. In one respect Japan has differed fundamentally from our Western civilized communities. We, in the United States, have long been accustomed to a gradual diminution in the rate of increase of our population. At the beginning of the nineteenth century this rate was about 30 per 1,000 per annum, and this has declined in an essentially regular and orderly manner to about 7 per 1,000 per annum today. We see nothing disturbing in this gradual moderation in our rate of increase. Indeed, quite on the contrary, it would have been embarrassing had the original rate continued to the present. But, until 1935, the Japanese

authorities had been accustomed to an actual rise in the rate of increase of their population. In the course of the five-year period 1930 to 1935, the growth of the population was 7.5 per cent—that is, at a rate of 1.5 per cent per annum; then, in the next period, 1935 to 1940, this rate was reduced to 5.6 per cent, a rate of 1.1 per cent per annum.

This situation . . . inspired the formulation of a plan approved by the Japanese Cabinet in January, 1941. This plan aims at giving Japan a population of 100,000,000 by 1960, and frankly purposes to outrival other nations in rate of natural increase. It is modeled much on the lines of the German and Italian measures established for similar purposes and proposes various forms of subsidies to large families, with some degree of penalization of small families and unmarried persons. To us this solicitude must seem somewhat exaggerated when we reflect, for example, that even today Japan with its 73,000,000 inhabitants annually has nearly 2,000,000 births, not far below our own figure of about 2,250,000 millions in our population of 132,000,000.

In its mortality Japan lags materially behind us. The death rate in Japan, according to recent figures, is 17.4 per 1,000, as against a rate of approximately 10 or 11 in our own experience [peacetime figures]. The fact is that recent conditions in Japan correspond to conditions here about 40 years ago Whereas our death rate from tuberculosis today is fortunately reduced to 45 per 100,000, that of Japan in 1937 was 204, a figure closely resembling ours for 1900—namely 196

The age distribution is itself a matter of outstanding interest today on account of its relation to the availability of men of military age. The proportion of men in the age group of 20 to 44 in Japan, according to the latest data available which relate to the census of 1935, is 34 per cent, corresponding to a total of 11,000,000. In our own population, the contingent of men of these ages constitutes 38.5 per cent, or a total of 25,000,000 There certainly cannot be much sympathy for a program that offers bonuses and all kinds of bribes to the average family to breed more freely, while on the other hand it claims that excess population is the justification for its territorial robberies.

doctors are ready and far better prepared I think than any other branch of the protective services of this city or any other city.

All doctors want to do something and they want to do it right away. That is a laudable impulse. So do druggists and dentists and almost everybody else. All the doctors and the dentists cannot be put to work until we are ready for them.

The American Pharmaceutical Association came to us some time ago and said: "What can the druggists do in civilian defense?" I laid out definite recommendations, but they were not at first happy about it. They wanted to do something more important. They felt that the first-aid post should be in drugstores where all the necessary supplies, medical and surgical, are immediately available. It did not require much argument to convince them that a pharmacy is one of the worst places for a first-aid post because of the amount of glass which constitutes one of the greatest hazards and the limitation in floor space. The fact that they have a few supplies available is not nearly so important as these other two considerations. Such supplies should be ready for purchase by people who want to replenish their first-aid kits. Some pharmacists were not satisfied; they went to state defense councils and to local defense councils and, finally, got to the sympathetic ear of one Director of Civilian Defense who heard their story. Not knowing its implications and being a good fellow, he said: "Sure, you can all be part of Civilian Defense. You can have a sign in your window and call yourself an emergency first-aid station."

That could not be permitted, for it would mean to the public that in the event of an air-raid casualty, they were to go to the druggist for treatment, rather than to the first-aid posts and casualty stations. These signs in the windows of the druggists had to be eliminated.

I called in the American Pharmaceutical Association and explained our difficulty. At our request, the American Pharmaceutical Association and the State Pharmaceutical Associations have gone down the line and have stopped this movement. We have also issued an official statement on the subject.

This is Medical Division Memorandum No. 7 sent out under date of December 15, 1941, which reads as follows:

"Large amounts of glass and space limita-

tions make pharmacies unsuitable sites for casualty stations and first-aid posts.

"Pharmacies are readily accessible in every community, are open during the greater part of the day and evening, and are visited frequently by members of the community. They are admirable sites for the dissemination of information.

"The stock of drugs, medicines, surgical, and sickroom supplies available for purchase in every pharmacy should be kept constantly replenished.

"What each pharmacist should do:

"1. Register with the Chief of Emergency Medical Service in this community, indicating the supplies he has available.

"2. If he has a delivery truck available for emergency transport, register it with the transport office of the local defense corps.

"3. Register his pharmacy with his air-raid warden, indicating the telephone and refuge facilities he has available.

"4. Place his services at the disposal of the local defense council for distributing hand bills, displaying placards, and other information on Civilian Defense.

"5. Inform himself of the organization, location, and character of protection facilities in his neighborhood so that he can direct citizens to shelter, wardens' posts, casualty stations, and first-aid posts.

"6. Review and extend his own training in first aid and prepare himself to instruct others in his employ.

"7. Large pharmacies should establish a first-aid detachment among their employees which can be immediately available as a stretcher team to assist the rescue squads in the extrication of casualties from demolished buildings and transport them to the first-aid posts of the Emergency Medical Service. For this purpose, it is advisable that pharmacies be equipped with a stretcher and with first-aid supplies.

"8. It is important that pharmacies avoid the use of any Civilian Defense designation which would tend to confuse the public concerning the location of casualty stations and first-aid posts of the Emergency Medical Service. Injured persons should obtain care at official stations of the Emergency Medical

Postgraduate Medical Education

Programs arranged by the Council Committee on Public Health and Education of the Medical Society of the State of New York will henceforth be published in this section of the JOURNAL. Members of the committee are Oliver W. H. Mitchell, M.D., chairman (428 Greenwood Place, Syracuse); George Baehr, M.D.; and Charles D. Post, M.D.

Treatment of Common Diseases

A course on the treatment of common diseases has been arranged by Dr. Clayton W. Greene, Buffalo University College of Medicine, Buffalo, New York, for the *Tioga County Medical Society*, Thursday evenings, 6:30 p.m., alternately Jenkins Inn, Waverly, New York, and Green Lantern Inn, Owego, New York.

March 19.—Treatment of Epigastric Distress Following Meals.

A. H. Aaron, M.D., professor of clinical medicine, Buffalo University College of Medicine.

March 26.—Practical Application of Hormonal Therapy.

Ivan Hekimian, M.D., assistant professor of medicine, Buffalo University College of Medicine.

April 2.—Treatment of Low Back Pain.

Frank N. Potts, M.D., associate professor of orthopaedic surgery, Buffalo University College of Medicine.

April 9.—Treatment of Common Skin Lesions.

Earl D. Osborne, M.D., professor of dermatology and syphilology, Buffalo University College of Medicine.

April 16.—What Do We Know About Vitamins.

David K. Miller, M.D., professor of medicine, Buffalo University College of Medicine.

Arteriosclerosis and Ageing

A course on arteriosclerosis and ageing, arranged by Dr. J. Murray Steele, New York University College of Medicine, New York City, for the *Jefferson County Medical Society*, is to be held on Thursday evenings at 6:30 p.m. at the Black River Valley Club in Watertown, New York.

April 9.—Clinical Interpretation of Modern Physiological Concepts.

J. Murray Steele, M.D., associate professor of medicine, New York University College of Medicine.

April 16.—Pathological Aspects.

Sigmund L. Wilens, M.D., assistant professor of pathology, New York University College of Medicine.

April 23.—Neuropsychiatric Aspects; Diagnosis and Treatment.

S. B. Wortis, M.D., associate professor of neurology, New York University College of Medicine.

May 14.—Renal and Cardiac Aspects; Diagnosis and Treatment.

William Goldring, M.D., associate professor of medicine, New York University College of Medicine.

May 21.—Peripheral Vascular Aspects; Diagnosis and Treatment.

Irving S. Wright, M.D., professor of clinical medicine, College of Physicians and Surgeons, Columbia University, New York City.

DIABETES ASSOCIATION TO MEET

The New York Diabetes Association, Inc., will hold a clinical meeting on Thursday, March 26 at 8:30 p.m. at The New York Academy of Medicine.

Dr. Beverly Chew Smith, chairman, Committee on Surgery will preside. "Reduction in Mortality Due to Gangrene in the Diabetic" is the subject of the symposium which is as follows: "By Prevention," Dr. Frederick W. Williams; "By Use of Sulfonamide Drugs," Dr. Samuel Standard; "By Use of Cold as an Anesthetic Agent for Amputations," Dr. Lyman W. Crossman; "By Amputations Below the Knee," Dr. Beverly C. Smith.

Each paper is limited to ten minutes. After the papers, a panel discussion with questions from the audience will be conducted by the speakers and the following discussors: Drs. Frederick M. Allen, James R. Lisa, Herman O. Mosenthal, Thomas J. O'Kane, and Samuel Silbert.

All physicians and medical students are cordially invited to attend this meeting.

PUT IT IN WRITING . . .

. . . says Edward Hall, M.D., in *Medical Economics*. He continues:

"When I began practice, I naively underestimated the forgetfulness of patients. But I've learned.

"I can remember giving one patient several verbal instructions for the care of her sore throat. I told her to take a prescribed capsule every two hours, to use a hot saline gargle every hour, to follow a liquid diet, to take a laxative, and so on.

"Next day she reported that she had carried out my orders faithfully and felt so much better. She had gargled with cold water every three hours, had taken bicarbonate of soda, and had forgotten the rest. Fortunately, this patient *did* feel better. But one or two other cases did not fare so well.

"I now make it a rule never to give more than two verbal orders in cases where an exact treatment routine is vital. Though it takes me a minute or so longer, I find it much better policy to hand the patient specific, written instructions for the management of his illness."

Medical Preparedness

It was announced in the March 1 issue that the official information from the Procurement and Assignment Service for Physicians, Dentists and Veterinarians, published in the J.A.M.A., February 21, 1942, would be reprinted in this issue of the JOURNAL. In its place we are substituting a recent communication from the New York State Procurement and Assignment Service which gives the information in a more concise form.—Editor

Procurement and Assignment Service

IN EACH Corps Area there is appointed, by order of the Secretary of War, a Procurement and Assignment Service to "procure and assign" doctors, dentists, and veterinarians to the Army, the Navy, the Public Health Department, the Civilian Defense, Industrial and other government agencies, and the services necessary for the civil populations.

- I (a) All physicians under 36 years of age desiring *immediate commissions* should write now to the Procurement and Assignment Service, 601 Pennsylvania Avenue, Washington, D. C.
- (b) This will constitute *their application*, and those who qualify will receive proper application forms with a view of commission in the Army or the Navy.
- II All physicians *over* 36 years should *await* the receipt of the new enrollment forms.
- III Within the next few weeks the enrollment forms will come to you in the mail from Washington.
- IV Make out your form *promptly*. By authority of the President of the United States, the Procurement and Assignment Service receives requests for personnel from the following agencies:

United States Army Medical Corps
United States Navy Medical Corps
United States Public Health Service
United States Veterans Administration
United States Civil Service Agencies
St. Elizabeth's Hospital (Washington, D. C.), resident staff and interns only
United States Indian Service
Panama Canal Service
Full-Time Service in Office of Civilian Defense

When you fill out the blank forms, you may indicate your preference.

- V You may not hear from the Procurement and Assignment Service for some months. You will only hear from the P. and A. Service in Washington when any of the above listed agencies requisition assigning you to duty such as *you* can give.

Military Service. All individual inquiries for information concerning a commission should be addressed to the Procurement and Assignment

Service, 601 Pennsylvania Avenue, Washington, D. C. Then the necessary papers will be sent to you.

Selective Service. Any physician who happens to be called before his local board should show the board *that he has already enrolled* with the Procurement and Assignment Service. If he is classified in 1A, he should ascertain from his local board whether or not an inquiry has been addressed to the Chairman of the Second Corps Area Procurement and Assignment Service to get data as to the status of the registrant—whether in the opinion of this Committee the registrant is a *necessary man* in his civilian capacity, and whether or not *he has enrolled* with the Procurement and Assignment Service for governmental service. In the rare instances where local boards *have failed* to make such an inquiry, the registrant should contact the *Government Appeal Agent* at the local board and *complete the necessary papers* for an appeal.

There are no blanket deferments possible under the Selective Service Law; each individual registrant's status is individually determined.

The absolute necessity of enrolling yourself with the Procurement and Assignment Service thus becomes obvious. Every effort will be made by the State Procurement and Assignment Service to obtain a temporary deferment of those physicians whose commissions are under way.

No efforts will be made by the State Procurement and Assignment Service to obtain temporary deferments for any physicians who either fail to enroll with the service or who make efforts in any way whatsoever to avoid serving his country in this time of War.

While it does not specifically concern physicians, identical procedures are in force for dentists and for veterinary surgeons. These professional groups will get all necessary information from their representatives on the State Committee.

The entire procedure, personal authority, and activity are outlined in the J.A.M.A. 118: No. 8, 625 (Feb. 21) 1942.

SAMUEL J. KOPETZKY, M.D., *Chairman*
New York State Procurement & Assignment Service

292 Madison Avenue, New York City



Buy U. S. Defense Bonds and Stamps



bert H. Baucus, chairman, Committee on Industrial Health, Medical Society of the State of New York. Dr. Harvey P. Hoffman, president, Medical Society of the County of Erie, was chairman.

"Industrial Pulmonary Diseases," by Dr. Leroy U. Gardner, director of Saranac Laboratory, Saranac Lake, New York; discussion by Drs. Donald R. McKay and J. Herbert Donnelly.

"Techniques of Physical Examinations in Industry and Medical Standards for Rejection," by Dr. B. L. Vosburgh, medical director, General Electric Company, Schenectady, New York; discussion by Drs. George G. Martin and Donald C. O'Connor.

"Systemic Effects of Various Substances Commonly Used in Industry," by Dr. J. H. Sterner, director, Laboratory of Industrial Medicine, Eastman Kodak Company, Rochester, New York; discussion by Drs. Francis D. Leopold and John P. Boroszewski.

"Traumatic Surgery with Emphasis on the Treatment of Wounds and Shock," by Dr. Henry H. Ritter, director, Traumatic Surgery Service, Post-Graduate Medical School and Hospital, Columbia University; discussion by Drs. Albert A. Gartner and John C. Brady.

General discussion and questions followed.

The University of Buffalo Medical Alumni Association will hold its Eighth Annual Spring Clinical Day on Saturday, March 28 at 9:30 a.m. at the Hotel Statler in Buffalo.

The following men will appear on the program and speak on topics of general interest: Dr. P. S. Hench, the Mayo Clinic; Dr. Carl Badgley, University of Michigan; Dr. Maxwell Wintrobe, Johns Hopkins Hospital; Dr. H. T. Hyman, New York City; Dr. Frank Lahey, president of the American Medical Association.

Franklin County

On February 11 the Saranac Lake Medical Society heard Dr. John N. Hayes, medical director of the Gabriels Sanatorium, talk on "Conditions Simulating Pulmonary Tuberculosis."

Genesee County

A scientific meeting to which all physicians and nurses were invited was held under the sponsorship of the county society and the Emergency Medical Service of Genesee County at the United States Veterans' Facility in Batavia on March 5.

Dr. Peter J. Di Natale, secretary of the county society, is head of the Emergency Medical Service. Five speakers, each giving a ten-minute talk on the care of war wounds and Civilian Defense protection, made up the program.

A business meeting of the county society was held at the Batavia Club on February 26.

Jefferson County

Preceding the February meeting held at the Black River Valley Club in Watertown on the tenth, dinner was served at six-thirty. The program included the second symposium on sulfonamide therapy. Dr. Allister M. McLellan, Cornell Medical School, New York City, and Dr.

Edward C. Hughes, Syracuse University College of Medicine, led the discussion.

The third session was held on February 24. All speakers and their subjects were published in the Postgraduate Medical Education Section of the JOURNAL on February 15.

See page 557 for postgraduate lectures.

Kings County

Dr. William C. Meagher was felicitated on his recent election to the presidency of the county society by more than one hundred persons on February 11 at the annual dinner of the Alumni Association of St. Catherine's Hospital in the Hotel Bossert, Brooklyn.

Associated with the hospital since he interned there in 1917, Dr. Meagher was praised by United States Attorney Harold M. Kennedy; City Court Justice Edward L. Kelly; Henry Mannix, president of the hospital's board of managers; Dr. Charles A. Gordon, chairman of the Brooklyn Chapter, American College of Surgeons; and Dr. Thurston S. Welton, editor of the *American Journal of Surgery*.

Dr. William T. Carrington, president of the society, presented him with a gold watch. Others at the dais were the Rev. Paul Faustmann, associate diocesan director of Catholic Hospitals, and Dr. John J. Gainey, president-elect of the county society.

Dr. John A. McCabe, chairman of the arrangements committee, was assisted by Dr. George F. Cunningham, Dr. Leslie H. Tisdall, Dr. Dominick F. Rossi, Dr. Raphael J. Di Napoli, and Dr. Vincent Anello.

The March 6 meeting of the East New York Medical Society was as follows:

A case report, "Combined Hyperthyroidism and Adrenal Cortical Insufficiency," was presented by Drs. Leo Gitman, Morris Ant, and Mendel Jacobi.

The paper of the evening was "The Recognition and Treatment of Anemia," by Dr. Paul Reznikoff.

Monroe County

At a joint meeting of the county society, the Rochester Academy of Medicine, and the University of Rochester Medical School on February 22, Dr. Albert D. Kaiser spoke on "Know Your Child's Heart."

Nassau County

At the joint meeting of the county society and the woman's auxiliary held on February 24 at the Cathedral House, Garden City, Dr. Richard M. Brickner spoke on "Mental Hygiene and Its Uses During War." Dr. Brickner is on the staff of the Neurological Institute in New York City.

The *Nassau Medical News* for February carries an article entitled "What to Do in an Air Raid." On the subject of first aid, the article includes this striking sentence: "The mortality rate [in England] in air-raid casualties is in direct proportion to the amount of work done on the victims in the field; the more you do before the patient gets to the hospital, the larger the percentage of cases which will result in death."

Medical News

State Health Program a Success

NEW York State's new community health program, now in operation for a year under auspices of the State Welfare Department, has proved workable and beneficial in nearly every instance, sixty commissioners and medical directors of city or county divisions agreed at a report meeting held in Albany on February 26.

Deputy Commissioner Lee C. Dowling stated that the program, already set up in twenty-nine communities, would be retained and expanded. With the medical directors, the commissioners will work out jointly the minor changes advocated after a year of experiment. Dr. Christopher Wood represented the State Medical Society.

County News

Albany County

Dr. Will Cook Spain of the New York Post-Graduate Medical School and Hospital was guest speaker at the February meeting of the county society on February 25. The meeting was in the auditorium of the College of Pharmacy. His subject was "The Treatment of Bronchial Asthma," and Dr. Harold P. McGan led a discussion after the talk.

Bronx County

On February 18 the county society held its regular meeting at Burnside Manor. The scientific program consisted of an address by Dr. Leonard Greenberg, director of Industrial Medicine, Department of Labor, whose talk was entitled "The Administrative and Preventive Aspects of Industrial Hygiene." Dr. May R. Mayers of the Division of Industrial Hygiene, Department of Labor, spoke on "Clinical Problems in the Diagnosis of Occupational Diseases."

Chemung County

The regular meeting of the county society was held on January 28, 1942, at the Arnot-Ogden Memorial Hospital, Elmira, and was called to order by the president, Dr. Leon Hamilton.

Dr. John Burke, Jr., reporting for the Post-Graduate Education Committee, stated that arrangements were being made for a one-day meeting. Men qualified in their special fields will come to Elmira to discuss the handling of conditions that might arise from wartime emergencies. A day early in April will be selected for this meeting.

Dr. Ross Loop, reporting for the Medical Preparedness Committee, stated that his committee had organized the county society into eight squads consisting of four men each—sixteen men assigned to each hospital, making a total of thirty-two men. Three or four additional men were listed as reserves for each hospital. Each squad is assigned to one particular sector of the county. In case an emergency arises the duty of the squad is to render first aid and then to classify the patient and decide whether or not hospitalization is necessary. Four nurses are to be assigned to each squad. Following his report, Dr. Loop introduced the speaker of the evening, Mr. Edgar Austin, deputy chief of Civilian Defense of Chemung County.

Mr. Austin acquainted the society with the fact that the civilian population of the county is being efficiently organized to cope with all matters of Civilian Defense. He also stated that

rescue squads were to be assigned to each squad of doctors and that auxiliary ambulances such as station wagons, etc., were being organized and registered. He mentioned the splendid response to the request for people to take the first-aid courses and the excellent job the Red Cross was doing in teaching these courses.

Following his talk, Mr. Austin showed British movies including scenes of the evacuation of Dunkerque, methods of extinguishing incendiary bombs, the British fire-warden system and the British coastal anti-aircraft corps in action.—*H. L. Walker, M.D., Secretary.*

Cortland County

Dr. John M. Swan, Rochester, executive secretary of the New York State Committee of the American Association for the Control of Cancer, was the speaker at a meeting on February 27 at the Truxton Central School gymnasium in Cortland. The meeting was arranged through the Cancer Committee of the county society.

Delaware County

The National Youth Administration has been given the job of making Thomas splints and Everett arm splints for the County Emergency Medical Committee. Dr. Donald Davidson, chairman, is sponsoring the job order. This job order has been approved by the District Office, according to the *Stamford Mirror Recorder*, in which the article appeared.

NYA has also received an order for nine (9) ticks and nine (9) stretcher covers from the Walton Chapter of the American Red Cross.

Any other chapter of the American Red Cross or organization doing Civilian Defense work who needs any type of work done, if they will contact Lockhart Russell at the Post Office Building in Walton, New York, the NYA would be glad to do the work. The cosponsor provides the material and the National Youth Administration furnishes the labor at no cost to the cosponsor.

Erie County

Industrial Health was the subject of a symposium held in Buffalo on February 26. It was presented under the auspices of the Medical Society of the County of Erie; the University of Buffalo School of Medicine; the Division of Industrial Hygiene, New York State Department of Labor; the New York State Department of Health; and the Medical Society of the State of New York.

The meeting was called to order by Dr. Her-

Tioga County

See page 557 for postgraduate lectures.

Schenectady County

At the regular meeting held on March 3 the

business session was followed by an address on "Blood and Plasma Transfusions—General Considerations." The speaker was Dr. August Korkosz, director of the Blood Bank of the Ellis Hospital, Schenectady.

Deaths of New York State Physicians

Name	Age	Medical School	Date of Death	Residence
Charles H. DeLancey	75	P. & S. N. Y.	February 10	Brooklyn
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Carl Goldmark	66	P. & S. N. Y.	February 19	Manhattan
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William J. Ryan	52	Albany	February 20	Pomona
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Thomas Tito	72	Naples	February 26	West New Brighton
Elliott Washburn	71	Harvard	February 17	Brooklyn
Dan H. Witt	51	Virginia	February 15	Manhattan

WORK, BUT SING TOO!

Flung and pushed about as so many of us are at this time, it is brought home to us with great emphasis that one of the few important possessions to treasure and guard zealously is mental and spiritual poise. From the time we arise to the moment we fall asleep, by radio and newspaper, in conversation and in conferences, at our work, yes, and at our lodge and club meetings, at the theater, and even in church, we are not only bombarded with friendly and unfriendly propaganda, but we are dogged perpetually to contribute money liberally, and give our little recreation time more and more, as "overtime," to defense and war activities.

This is inevitable of course. It must be that we shall all work hard together. Our President found it necessary to warn us that we are not beginning to produce enough, and that we must labor longer hours. As good citizens we must put our savings into Defense Bonds, we must keep keen our enthusiasm and our neighbor's enthusiasm, all bent toward achieving the success of Democracy's cause—more than even that, Democracy's life.

And all this time not a word is uttered about keeping mentally well, by not overworking our emotions but by taking time out to play, to laugh with children, and even to pray. It is no time, we are told, to be cautious; but it is still a step from sanity to insanity. It is very easy to snap under the strain of excitement, to spin about and tumble over the cliff of sanity. The climb back from the bottom is hard. . . .

—K. P. H. Wilson, R.N.,
in *Mental Hygiene News*

"DEATH TAKES HOLIDAY"

"There never was a time, probably, when so many events reflect the remarkable scientific advances in medical practice. Following are very brief excerpts from recent *Science News*:

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"That a decline in pneumonia deaths during an influenza epidemic occurred, for the first time on record, during the winter of 1940-41, is announced by the Metropolitan Life Insurance Company. Sulfadiazine treatment seems to have largely replaced serum treatment. . . ."

—S.C.A.A. News

New York County

At the meeting on February 23 the following symposium on war surgery was heard: "Fractures," Dr. William Darrach; "Wounds," Dr. John J. Moorhead; "Abdominal Injuries," Dr. Chas. Gordon Heyd; "Chest Injuries," Dr. Harold Neuho; "Brain Injuries," Dr. Foster Kennedy; and "Spine Injuries," Dr. Byron Stookey.

A recent editorial in the *Journal of the Medical Society of the County of New York* provoked comment in several New York City newspapers. "Using the Emigre Doctor" was the title of this excellent piece. It began: "As a result of military requirements, civilian America faces an imminent shortage of medical men. Yet at least 1,500 physicians, some of them graduates of Europe's leading medical schools, are vegetating in idleness, barred from the practice of their profession and unable to serve the country which has given them refuge and the cause in which they believe. *Common sense, as well as the American tradition of opportunity, demands that we utilize this skill which is now going to waste and of which the nation has need.*"*

The Hermann M. Biggs Memorial Lecture, which is held annually in Hosack Hall at The New York Academy of Medicine under the auspices of the Committee on Public Health Relations, will be delivered this year on Thursday, April 2, at 8:30 p.m. by Dr. James S. McLester, professor of medicine at the University of Alabama, chairman of the Council on Foods and Nutrition of the American Medical Association, and chairman of the Subcommittee on Medical Nutrition of the National Research Council. The lecture, "Nutrition and the Nation at War," is open to the general public.

Niagara County

The county society is sponsoring jointly with the Nutrition Committee and the Civilian Defense Council an extensive nutrition program for Niagara Falls.

Oneida County

The growth of the colony system of treating mental defectives was recently explained by Dr. Ward W. Millias, clinical director of the Rome State School, to the Utica Academy of Medicine.

Advances in aiding and restoring the hearing of deaf persons were explained by Dr. Samuel J. Kopetzky, president of the Medical Society of the State of New York, and members of the staff of the research department of the New York Polyclinic Hospital.

Persons suffering from deafness must be treated from a psychologic angle, he said, since a depressive condition results not generally found in blind people. He also urged all doctors to respond to the call for medical service in the armed forces.

Onondaga County

Thirty members of boards of supervisors from Allegany, Barry, Eaton, and VanBuren counties in Michigan were guests of Syracuse University at a one-week institute which began on February 23. It was conducted as a contribution to the Michi-

gan Community Health Project of the W. K. Kellogg Foundation at Battle Creek, Michigan.

The supervisors studied medical service, county government, education and home economics, welfare, library service, and democratic process under the auspices of the Institute. The New York State Department of Health cooperated with Syracuse University in sponsoring the Institute. Units of the University which conducted various sessions include the Maxwell School of Citizenship and Public Affairs, College of Medicine, School of Library Science, School of Speech, College of Home Economics, and School of Extension.

Dr. John B. Alsever, Syracuse, recently left for Washington, D. C., where he will supervise the establishment of plasma banks throughout the United States. Dr. Alsever, a member of the faculty of the College of Medicine, Syracuse University, will serve as technical consultant to the medical division of the Office of Civilian Defense.

Dr. Alsever has done considerable research in the use of plasma. In the January 15, 1941, issue of the JOURNAL there was published an article by Dr. Alsever and Dr. Robert B. Ainslie entitled "A New Method for the Preparation of Dilute Blood Plasma and the Operation of a Complete Transfusion Service."

Queens County

On February 24 a dinner at the Forest Hills Inn preceded the meeting in the Medical Society Building. The scientific program included a talk by Dr. Harry Gold on "The Circulation in Pneumonia." Dr. Norman Plummer spoke on "Specific Therapy of Pneumonia," and Dr. McKen Cattell, on "The Pharmacology of the Sulfonamides."

A sound motion picture entitled *Thumbs Up* was shown before the addresses. The picture is sponsored by the British War Relief Society, Inc., and is the classic film portrayal of war and relief and demonstrates with dramatic force the violence of total war. It follows the train of brutal Nazi aggression across the whole face of Europe, starting in Poland and driving ruthlessly through tragic scenes which reach their climax at Dunkerque, with its epic violence and heroism. Against this flaming background, the humanitarian work of the British War Relief Society is silhouetted. Lowell Thomas is the commentator.

Richmond County

Dr. William H. Best, deputy health commissioner, was one of two speakers at a meeting of the county society on February 11 in the Health Center, St. George.

Dr. Best told the doctors that in the entire city last year there were 363 diphtheria cases and 10 deaths, including 33 cases and 4 deaths on the Island.

"The present diphtheria situation on Staten Island is grave enough to require the combined efforts of the practicing physicians and all public and private agencies concerned directly or indirectly with the health and welfare of our children," he said.

The other speaker, Dr. Michael Antell, borough health officer, announced plans for a diphtheria control campaign on Staten Island.

* Italics ours.

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—S.C.A.A. News

Medicolegal

LORENZ J. BROSNAN, ESQ.

Counsel, Medical Society of the State of New York

An Important Amendment to the Education Law

AS IS well known, the Education Law has for many years forbidden the practice of medicine by any person who is not lawfully licensed or authorized to practice medicine within the State of New York. For many years, the said Law has contained a section providing that its provisions and restrictions should not affect or prevent "the practice of medicine in a legally incorporated hospital by a duly appointed member of the resident staff or by an intern while actually serving in a state hospital or other state institution in which medical service is provided."

However, while the Law acquiesced in the practice of medicine by resident physicians or interns, it made no attempt to define the qualifications of such resident or intern which would entitle him to act in such capacity.

At a recent session of the Legislature, steps were taken to incorporate into the Law provisions whereby a standard of educational training is set up as a condition to the practice of medicine by interns and resident physicians and of work in hospitals by medical students. The provision of said section of the Law which was enacted with a provision that it should become wholly effective July 1, 1942, are, so far as relevant, the following:

"This article (Education Law) shall not be construed to affect or prevent the following:

... (2) the practice of medicine in a legally incorporated hospital by a physician duly appointed as member of the resident staff or by an intern while actually serving in a state hospital or other state institution in which

medical service is furnished, provided the said duly appointed member of the resident staff or intern has completed not less than four satisfactory courses of at least eight months each in a medical school in this country or Canada registered as maintaining at the time a standard satisfactory to the department, or in a medical school in a foreign country maintaining a standard not lower than that prescribed for medical schools in this state, or has received the degree of bachelor or doctor of medicine from some medical school in this country or Canada registered as maintaining at the time a standard satisfactory to the department, or a medical degree or diploma from a medical school in a foreign country maintaining a standard not lower than that prescribed for medical schools in this state, or a license to practice medicine in a foreign country issued under requirements not lower than those exacted for a medical license in this state; or ... (10) medical students performing clinical clerkships or similar functions in a legally incorporated hospital, state hospital, or other state institution, provided such students are matriculated and enrolled in a medical school in this country or Canada registered as maintaining at the time a standard satisfactory to the department, or in a medical school in a foreign country maintaining a standard not lower than that prescribed for medical schools in this state."*

* Education Law, Section 1262.

Inquiries

YOUR Counsel recently received the following inquiry:

"Dear Mr. Brosnan:

"We are very anxious to be absolutely certain whenever permission for an autopsy is obtained at this hospital, that we are living up to the letter of the law. We wish to be sure, for example, that the person who signs the permit is legally entitled to give permission for the autopsy and that we, ourselves, do not in any way infringe upon the right of the next of kin in making our examination.

"Does the law permit hospitals or medical schools in New York State to remove entire organs or major portions of them for teaching purposes or for the building of a pathologic museum? If the pathologist is not permitted to remove an entire organ as a specimen for teaching purposes, is there any way in which the autopsy permit may be so worded that he is entitled to keep such a specimen?

"If a patient who comes to the hospital is married but is not living with her spouse and

gives as the next of kin the name of her sister, does the sister have a legal right to grant permission for an autopsy without permission from the spouse?

Yours very truly,"

Your Counsel's reply was as follows:

"Dear Doctor:

"I acknowledge receipt of your letter in which you make certain inquiries concerning the law of this state applicable to the performance of autopsies.

"I believe that Section 2210 of the Penal Law establishes in New York State the right of a person during his lifetime, by will or otherwise, to direct that an autopsy may be performed on his body. Said Section provides as follows:

"Right to direct disposal of one's own body after death. A person has the right to direct the manner in which his body shall be disposed of after his death; and also to direct the manner in which any part of his body, which becomes separated therefrom during

his lifetime, shall be disposed of; and the provisions of this article do not apply to any case where a person has given directions for the disposal of his body or any part thereof inconsistent with those provisions.'

"The Section 2213 of the Penal Law specifically provides instances in which an autopsy may be performed, and Section 2214 provides that any person who participates in the performance of an autopsy except by authority of law, or pursuant to permission given by the deceased, is guilty of misdemeanour. The Section 2213 provides as follows:

"The right to dissect the dead body of a human being exists in the following cases:

"1. In the cases prescribed by special statutes; or,

"2. Whenever a coroner is authorized by law to hold an inquest upon a body, or upon the written request of the duly constituted police authorities of the state, including the department of correction, or of a political subdivision of the state with a population of more than one hundred thousand persons, or on behalf of the police authorities of a political subdivision of the state with a population of less than one hundred thousand by request of the state department of correction or state police, so far as such coroner authorized dissection for the purposes of the inquest, or to furnish the information desired by said police authorities, and no further; or,

"3. Whenever and so far as the husband, wife, or next of kin of the deceased, being charged by law with the duty of burial, may authorize dissection for the purpose of ascertaining the cause of death, and no further; or,

"4. Whenever any district attorney in this state, in the discharge of his official duties, shall deem it necessary, he may exhumate, take possession of, and remove the body of a deceased person, or any portion thereof, and submit the same to a proper physical or chemical examination, or analysis, to ascertain the cause of death, and the same shall be made on the order of any justice of the supreme court of this state, or the county judge of the county in which such dead body shall be, which order shall be made on the application of the district attorney with or without notice to the relatives of the deceased person or to any person or corporation having the legal charge of such body, as the court may direct. Said district attorney shall have power to direct the sheriff, constable, or other peace officer in this state, or to employ such person, or persons as he may deem necessary to assist him in exhuming, removing, obtaining possession of, and examining physically or chemically such dead body or any portion thereof. The expense therefor shall be a county charge, to be paid by the county treasurer on the certificate of the district attorney.'

"In addition to the said provisions of the Penal Law, Section 316 of the Public Health Law, in a Section relative to disposition of cadavers, provides for the performance of

autopsies upon unclaimed corpses and for the delivery of such corpses to medical colleges throughout the state. The said Section provides as follows:

"*Cadavers.* 1. Dissection. The persons having lawful control and management of any hospital, prison, reformatory, asylum, almshouse, morgue, or other receptacle for corpses not interred, and every undertaker or other person having in his lawful possession any such corpse for keeping or burial may deliver and he is required to deliver, under the conditions specified in this section, every such corpse in their or his possession, charge, custody, or control, not placed therein by relatives in the usual manner for keeping or burial, to the medical colleges, schools or institutes registered by the regents of the university of the State of New York as maintaining a proper standard, and universities of the state authorized by law to confer the degree of doctor of medicine and to all other colleges or schools incorporated under the laws of the state for the purpose of teaching medicine, anatomy, or surgery to those on whom the degree of doctor of medicine has been conferred, and to any university of the state having a medical preparatory or medical postgraduate course of instruction. No corpse shall be so delivered or received in case the next of kin, within forty-eight hours after death, notifies the person or institution so delivering or receiving the same, that it is desired for interment, or of a person who shall have expressed a desire in his last illness that his body be interred; and in such cases the same shall be buried in the usual manner. Any person claiming any corpse or remains for interment as provided in this section, may be required by the persons, college, school, institute, or university or officer or agent thereof, in whose possession, charge, or custody the same may be, to present an affidavit stating that he is such relative and the facts and circumstances upon which the claim that he is such relative is based, and that the said relative assumes the cost of burial, the expense of which affidavit shall be paid by the persons requiring it. If such persons shall refuse to make such affidavit, such corpse or remains shall not be delivered to him but he shall forfeit his claim and right to the same. Any such medical college, institute, school, or university desiring to avail itself of the provisions of this section shall notify such persons having the control and management of the institutions and places heretofore specified, and such undertakers and other persons having any such corpse in their possession, custody, or control in the county where such college, institute, school, or university is situated, and in any other county in the state in which no medical college, institute, school, or university is situated, or in which no such medical college, institute, school, or university desires to avail itself of the provisions of this section, of such desire, and thereafter all such persons shall notify the proper officers of such college, institute,

school, or university whenever there is any corpse in their possession, custody or control, which may be delivered to a medical college, institute, school, or university under this section, and shall deliver the same to such college, institute, school, or university. If two or more medical colleges, institutes, schools, or universities are entitled to receive corpses, under the provisions of this act and shall have given notice as aforesaid, they shall receive the same in proportion to the number of matriculated students in each college, institute, school, or university who are pursuing courses of anatomy and surgery at the time of making the apportionment. The professors and teachers in every college, institute, school, or university receiving any corpse under this section shall dispose of the remains thereof, after they have served the purposes of medical science and study, in accordance with the regulations of the local board of health where the college, institute, school, or university is situated. Every person neglecting to comply with or violating any provision of this section, shall forfeit to the local board of health where such non-compliance or violation occurred, the sum of twenty-five dollars for every such non-compliance or violation, to be sued for by the health officer of such place, and when recovered to be paid over, less the costs and expenses of the action, to such board for its use and benefits.

"2. Autopsies. The person having lawful control and management of any hospital in which a patient has died may order the performance of an autopsy upon the corpse, unless objection is made to such autopsy by the next of kin within forty-eight hours after death. In case of unclaimed bodies, the aforementioned medical colleges, institutes, schools, or universities shall have a priority claim to the bodies, for the purpose of teaching anatomy.

"3. Disposal of remains. In all cases in which an autopsy or dissection has been made of an unclaimed body, the provisions of article one hundred and ninety-eight of the penal law requiring the burial of a dead body and punishing interference with or injuries to it, shall apply equally to the remains of such body as soon as the lawful purposes of such autopsy or dissection have

been accomplished, except that the persons having possession of the dead body may, in their discretion, cause it to be either buried or cremated, or may retain parts of such body for scientific purposes."

"In answer to your inquiry concerning the removal of entire organs or major portions of them by hospitals and medical schools, let me state that I believe that where Article 316 of the Public Health Law is applicable Medical Colleges which receive cadavers are entitled to dispose of any portions of the said corpses for teaching purposes, or for the building of pathological museums. However, it should be noted that Section 316 of the Public Health Law only applies in special instances. In the ordinary case where a consent to an autopsy is obtained, or where an autopsy is authorized by the coroner or medical examiner, the law places a specific limitation upon the right to dissect a dead body.

"The scope of the autopsy is limited in the one case to 'dissection for the purpose of ascertaining the cause of death and no further,' and in the other case to 'dissection for the purpose of the inquest and no further.' Consequently, the ordinary rule seems to be that the organs must be replaced in the body after suitable specimens have been taken for the purpose of ascertaining the cause of death.

"I believe that under Section 2210 the Penal Law, set forth above, would permit a person during his lifetime to direct that any organ, or part of his body, might be dissected or preserved for study. In the case, however, where the surviving spouse or the next of kin authorize an autopsy, strict compliance with the wording of the statute would seem to forbid the keeping of specimens from a dead body, other than necessary for the purpose of ascertaining the cause of death.

"Your letter also raises the question as to the situation present when the surviving spouse is separated from the deceased and where the sister of the deceased consents. Under such circumstances I do not believe that ordinarily the sister would be entitled to consent to the autopsy but feel that the consent of the surviving spouse to an autopsy should be obtained even where the deceased and the surviving spouse were separated before death.

Very truly yours,"

CHICAGO SELECTED FOR 1942 CLINICAL CONGRESS OF THE AMERICAN COLLEGE OF SURGEONS

Because of the war, the thirty-second annual Clinical Congress of the American College of Surgeons will be held in Chicago, October 19 to 23, instead of in Los Angeles as originally planned. Headquarters will be at the Stevens Hotel. The

twenty-fifth annual Hospital Standardization Conference sponsored by the College will be held simultaneously. The programs of both meetings will be based chiefly on wartime activities.



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Woman's Auxiliary

To the Medical Society of the State of New York

News from Capitol Hill

THIS is your Legislative Correspondent reporting from Capitol Hill in Albany. Medically speaking, things have been rather quiet so far—at least on the surface. We have had no all-out call for auxiliary action against any particular bill. In fact, I was looking hopefully for some high, wide, and handsome bills on the subject of defense, but nine out of ten of the ones we are interested in have come along on the "business as usual" basis.

Don't let that make you feel I am bored with my job; it is all new—all different—and all interesting as far as I am concerned.

We are interested in the passage of the X-Ray Bill introduced by Dr. Muzzicato (S. Int. 680 Muzzicato—A. Int. 1016 Sullivan). This limits the use of x-ray for diagnosis to doctors, dentists, and chiropodists. Then, there are a few bills that are being actively opposed by the Medical Society. One proposes to increase the time limit for malpractice suits from two to six years (S. Int. 66 Feinberg—A. Int. 61 Reoux). Almost anyone can fall apart in six years and a good lawyer could facilitate the process. Then there is a bill (A. Int. 308—Austin) to allow physical therapists to practice without the supervision of a doctor. This is certainly not in the interests of public health, for it would allow a physical therapist who has had no medical education to make diagnoses and would encourage the public to diagnose its own ailments.

For those who were under the impression that socialized medicine died with the defeat of the Wagner Bill and certainly would not be resurrected now that its author is in the army, let me point out that Mr. Gittleston (A. Int. 153) rattles the skeleton. His bill for state medicine, called by Haven Emerson the only pure state health plan, has been introduced for the fifth time into the Assembly.

It has been pointed out to us that while we in Albany have been vigilantly guarding the front door to organized medicine, various factors in Washington are at work to open the back door. Should the chiropractors be able to break down

resistance to their inadequate training and receive medical commissions in the Army—here we go again, what is good enough for our boys will be good enough for us—and all the work we have done to show that they are not educated to carry on the practice of medicine as they wish will be for naught. A pass key may be slipped in the back door in the form of an executive order that would amend the National Social Security Law to allow \$3.00 a day for hospital services.

And now, because all reporters have a yen to be commentators, I want to urge you to look ahead to your own future. Capitol Hill can be compared to Vesuvius. Though legislation is the final eruption, look at what precedes that earthquake. Our husbands are going to war in ever-increasing numbers; our taxes are more than we have ever known them to be. When it is all over, our men will come back to practices that are gone. Can't you see that the time will be ripe for the government to say: "Here I'll give you \$2,500 a year and maintenance, or \$5,000 if you are a specialist, to work for me?" And without any kick at all a large number of our doctors will jump at it as the quickest, easiest way to be self-supporting again. The taxes will stay up. Oh, they will take off some of the spectacular ones on cosmetics and the movies. Don't forget we never lost the income tax after the last war! So, we keep our taxes and we take state medicine with hardly a quiver. Legislation will prove just the final amen to that chapter.

Is that logical? It is a possibility? Is it far-fetched? Ask for yourself. Find out if any plans are being considered in your locality. Our greatest sacrifices will come after the war is won; when help must be provided by the medical societies to the returning doctor lest he be forced to sell his birthright of free competitive medicine for the proverbial mess of pottage—state control. Let organized medicine look to the peace as well as the war.

MRS. ALFRED L. MADDEN
Chairman of Legislation

General News

The Midwinter Executive Board Meeting of the State Auxiliary was held at the DeWitt Clinton Hotel in Albany on February 16 and 17. A social hour preceded the dinner on Monday night. At 8:00 P.M. a large group of the auxiliary members attended a session at the legislature. On Tuesday the Executive Board Meeting was held, Mrs. George B. Adams graciously presiding. Fine reports were read from the standing committees and the county presidents.

The Annual Convention of the Woman's Auxiliary to the Medical Society of the State of New York will be held on April 27, 28, 29, and 30 at the Waldorf-Astoria Hotel, New York City.

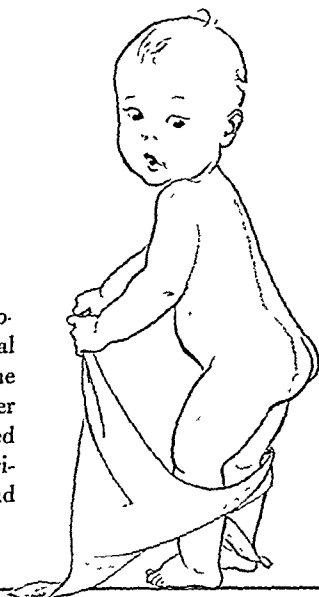
Headquarters will be in the Starlight Roof. All doctors' wives, whether members of an auxiliary to a county society or not, are urged to register at the Registration Desk in the corridor eighteenth floor, Starlight Roof, and are cordially invited to participate in all parts of the program.

Don't forget the National Convention.—Haddon Hall will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, New Jersey, June 8 to 12.

Requests for reservations should be sent immediately to Haddon Hall, Atlantic City, New Jersey.

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	MINIMAL REQUIREMENTS	BIOLAC FEEDINGS
PROTEIN (gms./lb. body weight) . . .	1.4 to 1.8*	2.2†
CALCIUM (gms./day)	1.0*	1.0
IRON (mgms./100 calories)	0.75 . . .	1.25
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VITAMIN B ₂ (mgms./day)	0.5	2.
VITAMIN D (U.S.P. Units/100 calories) . .	50.	63.

*The Food & Drug Administration has not promulgated minimum requirements for protein and calcium in infancy. The values shown are those recommended by the National Nutrition Conference.

†When Biolac formulas are fed in the amount of 2½ fl. oz./lb. body weight.

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The Medical Clinics of North America. Chicago Number. Volume 26, Number 1. Octavo of 313 pages, illustrated. Philadelphia, W. B. Saunders Company, 1942. Cloth, \$3.00.

Clinical Roentgenology of Pregnancy. By William Snow, M.D. Quarto of 178 pages, illustrated. Springfield, Charles C. Thomas. Cloth, \$4.50.

Diabetes Mellitus. By Zolton T. Wirtschafter, M.D., and Morton Korenberg, M.D. Octavo of 186 pages. Baltimore, Williams & Wilkins Company, 1942. Cloth, \$2.50.

A Hand-Book of Ocular Therapeutics. By Sanford R. Gifford, M.D. Third edition. Octavo of 410 pages, illustrated. Philadelphia, Lea & Febiger, 1942. Cloth, \$4.00.

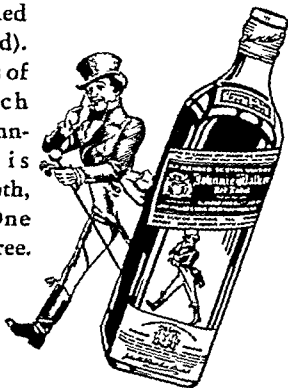
[Continued on page 570]



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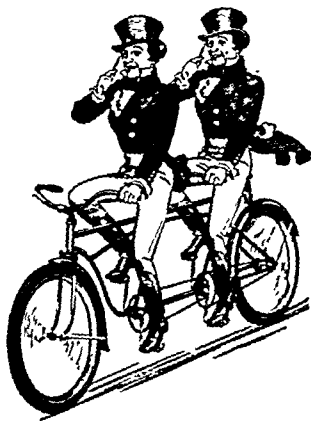
The Medical Clinics of North America. Chicago Number. Volume 26, Number 1. Octavo of 313 pages, illustrated. Philadelphia, W. B. Saunders Company, 1942. Cloth, \$3.00.

Clinical Roentgenology of Pregnancy. By William Snow, M.D. Quarto of 178 pages, illustrated. Springfield, Charles C. Thomas. Cloth, \$4.50.

Diabetes Mellitus. By Zolton T. Wirtschafter, M.D., and Morton Korenberg, M.D. Octavo of 186 pages. Baltimore, Williams & Wilkins Company, 1942. Cloth, \$2.50.

A Hand-Book of Ocular Therapeutics. By Sanford R. Gifford, M.D. Third edition. Octavo of 410 pages, illustrated. Philadelphia, Lea & Febiger, 1942. Cloth, \$4.00.

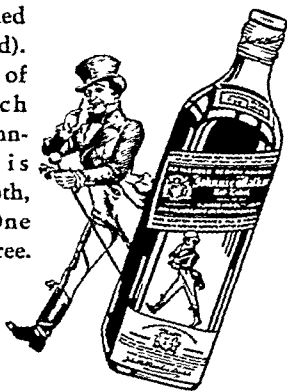
[Continued on page 570]



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(Continued from page 568)

REVIEWED

The Spectacle of a Man. By John Coignard. Octavo of 252 pages. New York, Duell, Sloan and Pearce, 1941. Cloth, \$2.50.

A physician, a psychoanalyst, writes a novel. The theme is love. The patient, a male neurotic, falls in love with a beautiful woman. This new experience and his reactions to it constitutes the chief attraction of the novel. The author employs the method of psychoanalysis. The patient who is obsessed with many phobias, remains under treatment for one year and recovers. The manner in which psychoanalysis is applied to explain dreams and other symptoms of the patient will doubtlessly interest many a lay reader. It is a clever piece of work.

JOSEPH SMITH

Fatal Partners: War and Disease. By Ralph H. Major, M.D. Octavo of 342 pages, illustrated. Garden City, Doubleday-Doran & Company, 1941. Cloth, \$3.50.

Rare it is that a book submitted for review is read from cover to cover.

Here is the exception. Furthermore, it will be so read by anyone who picks it up. The reader is certain to be carried along by its popular style, enriched with historical fact, colorful anecdote, and the atmosphere of war and conquest.

No attempt is made to prove any thesis that great discoveries emerge from the tragedy of war. Instead, Major states the medical problems associated with the wars of the past, throwing light on aspects of warfare differing from its technic and tactics.

The volume opens with a chapter on Greece and Rome and their respective wars and pestilences: the plague of Athens (probably typhus) of the Peloponnesian War, and the smallpox of the Mesopotamian campaign that returned to ravage the Roman empire for fifteen years.

The eight Crusades (1096 to 1292) spread loathsome leprosy, resulted in decimating outbreaks of scurvy but, on the other hand, led to the development of hospitals of the Knights of St. John, those Knights Hospitallers whose splendid work of mercy has carried down to the present time.

The gunpowder era elevated the common foot soldier, changed the type of battle wounds, and gave us the surgical teachings of Berengarius, Paracelsus, and Galen.

The Thirty Years' War developed frightful epidemics of typhus and plague, these playing a large part in the sad tale of plunder, pillage, and pestilence. Napoleonic wars produced outbreaks of trachoma, bubonic plague, scurvy, typhus, and typhoid but also gave to the world Larrey and his "ambulances volantes."

The Crimean War developed the nursing of Florence Nightingale, and the one battle of Solferino resulted in the humanitarian organization of the Red Cross of Henry Dunant (1863).

Intensive study of the epidemiology of typhoid, malaria, and yellow fever followed our Spanish-American War and the Boer War with its ravages

of typhoid fever. Out of it all came anti-typhoid vaccination and regulatory control of yellow fever and malaria.

Shell shock, trench fever, typhus fever, gas gangrene, tetanus, war edema, Spanish influenza: these were outstanding medical problems of the first World War.

The Spanish Civil War brought the story of exceptional cruelty among brothers but gave us the new Winnett Orr-Truett treatment of wounds and the airplane ambulance. Now World War II gives us shell shock, "shelter fever," and the brilliant sulfonamide treatment of infections and wounds.

War and disease are indeed fatal partners. Fortunate the world if any remediable measures emerge from the Hell!

FRANK BETHEL CROSS

Effective Living. By C. E. Turner, A.M., and Elizabeth McHose, M.A. Octavo of 432 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$1.90.

This is a book primarily designed for use in the teaching of health education to a group of high-school age. The salient features of both personal and community hygiene are well presented. Without too much debate, a sufficient account is given of such basic subjects as anatomy, physiology, etc., to enable the student to rationalize his information on the subject matter presented. Controversial items are so treated that extreme opinions are eliminated.

F. L. MOORE

Masochism in Modern Man. By Theodor Reik. Translated by Margaret H. Beigel and Gertrud M. Kurth. Octavo of 439 pages. New York, Farrar & Rinehart, Inc., 1941. Cloth, \$4.00.

Masochism was first used to describe a sexual aberration—a perversion that Freud called the most frequent and most significant of all perversions, one in which an individual gets satisfaction by assuming a most passive relation to the partner, experiencing pain, suffering, and humiliation at the same time. However, the term has assumed a much broader implication, and it is now also used to describe a particular attitude toward life or a type of social behavior in which the individual seems to enjoy one's own suffering, dependency, or helplessness. Masochism, therefore, has outgrown its narrower sexual meaning, in which one derives satisfaction from one's love life in physical or mental pain, and is now used to describe the social situation in which a person unconsciously strives for physical or psychic pain, voluntarily submitting to suffering, and apparently deliberately accepting sacrifices, shame, humiliation, and disgrace.

The author has been a friend and associate of Freud for many years. He has included the views of Freud, as well as his own, regarding this rather perplexing mental mechanism of getting satisfaction from suffering. He sheds

(Continued on page 572)

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considerable light not only on some forms of neurotic and psychotic conduct but also on some illogical forms of apparently normal behavior not only of individuals but also of certain groups. Thus, one may gain some understanding of the submission of certain individuals to the will of gangsters or of some of the conquered peoples to the dictator countries. It may enable us to understand the submission of peoples to the totalitarian dictatorships. The book may shed considerable light in understanding the mental mechanisms of the isolationists and others who regard as futile any effort to fight the dictators.

The book is a profound study of a most difficult subject. It will receive a cordial welcome from all intelligent people.

IRVING J. SANDS

Infantile Paralysis. A Symposium Delivered at Vanderbilt University, April, 1941. Octavo of 239 pages, illustrated. New York, the National Foundation for Infantile Paralysis, 1941. Cloth.

This book is made up of six lectures delivered at Vanderbilt University in April, 1941. Recent advances made in the research of acute anterior poliomyelitis are discussed by six scientists.

In the first lecture, Paul F. Clark, Ph.D., of the University of Wisconsin, gives a history of the disease up to the present time.

Lecture 2: Charles Armstrong, M.D., of the U. S. Public Health Service brings up to date the literature and research on its etiology.

Lecture 3: Thomas M. Rivers, M.D. of the Rockefeller Institute, discusses the immunologic and serologic phenomena.

Lecture 4: The pathology and pathogenesis are well done by Ernest W. Goodpasture, M.D., of Vanderbilt University.

Lecture 5: John R. Paul, M.D., of Yale, discusses and illustrates the ideas evolved on the epidemiology of the disease.

Lecture 6: Treatment and rehabilitation are covered by Frank R. Ober, M.D., of Harvard.

In order to answer intelligently the myriad of questions by myriads of patients all physicians should become familiar with the contents of this little volume.

THURMAN B. GIVAN

The Care of the Aged (Geriatrics). By Malford W. Thewlis, M.D. Third edition. Octavo of 579 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$6.00.

The first edition appeared in 1919, and it has been seventeen years since the second one was published.

The book is divided into five sections; general considerations, miscellaneous medical problems, specific infections, noninfectious diseases, and pathologic conditions in old age. These subjects are fully discussed.

The public and medical neglect of the aged is commented upon and, in discussing the value of old age, an interesting account is given of the accomplishments late in life of many famous people. "One purpose of this volume is to stimulate physicians to look upon the old as still necessary to civilization and to stimulate the aged to carry on."

The importance of keeping senile patients out of bed, whenever possible, is emphasized, psychic as well as physical benefit being often obtained.

A chapter on tuberculosis in old people by Leroy S. Peters calls attention to the fact that this disease is not uncommon and is readily overlooked.

The book shows the great interest of the author in the problems of old people, and an extensive bibliography supports his statements.

W. E. McCOLLUM

Sulfanilamide and Related Compounds in General Practice. By Wesley W. Spink, M.D. Octavo of 256 pages. Chicago, Year Book Publishers, 1941. Cloth, \$3.00.

The Year Book Publishers are establishing a reputation for excellent books at low cost. We have previously had an opportunity to review very favorably their books on *Endocrinology* and *Vitamin Therapy*. Now comes Spink's excellent compend on sulfonamide therapy. This little volume contains a digest of most of the excellent work done by numerous workers and the author himself. There is even a section on sulfadiazine and sulfaguanidine which brings the volume right up to date. It cannot be too warmly recommended.

ANDREW M. BABEY

Handbook of Anaesthetics (Formerly Ross and Fairlie). Revised by R. J. Minnitt, M.D. Fifth edition. Duodecimo of 364 pages, illustrated. Baltimore, Williams & Wilkins Company, 1940. Cloth, \$4.00.

The fifth edition of this excellent handbook has been brought up to date by the extensive knowledge of Dr. Minnitt. It is essentially a practical book for the beginner seriously interested in the specialty of anesthesiology. Although many details of information are useful to the expert, he is likely to find that most of the material is rather elementary and simplified. The photographs and diagrams are plentiful and are of excellent quality. The small size of the book and excellent arrangement of the contents help to make this a good vade mecum for the intern and resident in anesthesiology.

BARNETT A. GREENE

A Text-Book of Pathology. Edited by E. T. Bell, M.D. Fourth edition. Octavo of 931 pages, illustrated. Philadelphia, Lea & Febiger, 1941. Cloth, \$9.50.

This fourth edition of a *Text-Book of Pathology* is a timely contribution to the subject. Although departing in some beliefs and concepts that are held by other authors somewhat more orthodox, it nevertheless expresses the current thoughts clearly, concisely, and acceptably.

Many additions and important revisions have been made, bringing the work up to date. The illustrations are excellent and abundant and impress clearly on the mind points emphasized in the text. At the end of each chapter is a bibliography which, while not too cumbersome, offers a key to literature of the subject discussed. As a textbook for students and practitioners it should be placed in the first rank and find an enthusiastic welcome.

MAX LEDERER

NEW YORK STATE JOURNAL OF MEDICINE

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Editorial

The Annual Meeting

Now for the first time in five and twenty years the annual meeting of the Medical Society of the State of New York, set for April 27-30 in the City of New York, will be held with the nation at war. Many of our members are already in the services, more are being called. Upon those who remain at their civilian posts a tremendous responsibility rests, and a burden of work which will tax everyone to the limit of his or her physical, financial, and mental ability. For this is a total war.

As might be expected, the general session which opens Tuesday, April 28, will deal with military medicine, Col. Chas. M. Watson, M.C., Surgeon, Second Corps Area, presiding, with Dr. Samuel Adams Cohen representing the metropolitan New York Chapter of the Association of Military Surgeons of the United States.

Major General James C. Magee, surgeon general, U. S. Army, will speak on the transition of civilian doctors to the status of medical officers of the army. Col. Leonard G. Rowntree, chief medical officer of the National Selective Service Administration, will tell of lessons learned from physical examinations of registrants. Dr. George Baehr, chief medical officer, Office of Civilian Defense, will talk about the physician's role in the civilian defense program.

Following the first general session on Tuesday, April 28, the one hundred and thirty-sixth annual meeting of the Society

will be formally launched at the banquet to be held in the ballroom of the Hotel Waldorf-Astoria at 7:00 P.M. The President of the United States, the Governor of the State of New York, the Mayor of the City of New York, and high-ranking representatives of the Army, Navy, and their Medical Corps, and of the Selective Service have been invited to attend. Owing to wartime demands, the President has been unable to accept the invitation, and a number of acceptances are necessarily tentative. However, significant addresses will be heard.

Anesthesia, industrial dermatoses, and a symposium on diseases of the chest will complete the first day's scientific session. A more than usually interesting display has been arranged by our friends the exhibitors who, even in this first year of war with priorities challenging their ingenuity, stand by us as they always have in the past under all conditions. We urge that all physicians who come to the meeting make it their business to examine the exhibits carefully. It will be to their interest to do so, since no one can tell what the forthcoming year will hold in store in the matter of shortages, even of necessary medical apparatus and supplies of all sorts.

The entire program is printed elsewhere in this issue and includes such high lights as a symposium on lupus erythematosus, and one on the various diarrheas; a joint meeting of the section on medicine with the section on surgery; and

an interesting presentation, in the section on neurology and psychiatry, of experiments with "glue suture" in repair of nerve injuries, by Dr. Nilson de Rezende, of Rio de Janeiro.

A symposium on public health and the war and another on chest film interpretation will also be held. Radiologists throughout the state have been asked to send in films of interesting, unusual, or puzzling cases in which the diagnosis has been proved by microscopic study, operation, or autopsy. For the first time, the section on pathology and clinical pathology will present a demonstration of fresh pathologic material. Surgery

in the aged will be discussed by Dr. Frederick W. Bancroft. The subject of refrigeration as a means of anesthesia on surgery of the extremities should be interesting to many, and to those who delve into the history of medicine, a paper in body snatching in New York City should prove of interest, as well as one on the yellow fever epidemic of 1795-1805 in New York City. In the program of the session on the history of medicine we note the following: "Intermission: Epidaurian Oasis." Gentlemen, your guess is as good as ours. See you there? Bring your own palms—it may be only a mirage.

Calling the Old Guard

A correspondent writes:

"Medical men over sixty, with a practice of three or four decades behind them, are now about to be called from *otium cum dignitate* back to urgent medical service in practice, hospitals, and on the defense front, as the younger men in these same medical areas are drafted into military service.

"This will come within the next two or three months, and we must come down from our self-selected shelves of semi-isolation into the world of work and double work, and we must do our work well."

He then suggests that each ask himself two questions. The first: Am I physically fit to walk the wards and to do the work? The second: Am I up to date? Could I face a State Board examination?

The obvious answer to the first question is a health examination. We recommend it daily for others. Have we the moral courage to do it ourselves? "I am going to do my work well," says our correspondent, "even though I am facing the work of three men half my age. . . ." Surely this is a thing to which we in the sere and yellow leaf can pledge ourselves—namely, a survey (the American Medical Association blank costs but ten

cents) of our physical assets for the work we have to do.

The answer to the second question is not so simple. It involves the relative values of experience and quantitative information. The profession has sufficient journals and readily accessible sources of information to have been able to follow closely the developments in modern medicine if they have had the will to do so. Postgraduate refresher courses also have been provided in abundance, and still are. It is possible for any man in the profession who can read or hear to be reasonably up to date. And it is gratifying at any county or state society meeting to see the large proportion of gray (and sometimes bald) heads in attendance. The labor of being "up to date" has been made easy.

It is quite possible, in our view, that any physician who has attended the scientific sessions of his county society, has read his journals, and has attended the refresher courses, might fail a State Board examination, and still be reasonably up to date. The value in actual practice of three or four decades of work with human beings and medical procedures is inestimable. And we feel that the men over 60 who have the physical stamina to withstand the rigors of a re-

turn to more active practice will give a good account of themselves.

We urge the adoption of the health examination on all physicians, young or old, and add, modestly, the suggestion

that they carefully read this JOURNAL, as well as other journals published for their special interests, that they attend their county refresher courses, and that they take each day as it comes.

Security? What Security?

There is, apparently, no change in the point of view of the Administration with respect to the promotion of its social program. "Radical proposals for changing the whole system of American living,"¹ in sickness or in health, seem to be pending. We need planes, not social gains!

In his budget message to the second session of the Seventy-seventh Congress, January 7, President Roosevelt recommended "an increase in the coverage of old age and survivors' insurance, addition of permanent and temporary disability payments and hospitalization payments beyond the present benefit programs, and liberalization and expansion of unemployment compensation in a uniform national system." On January 20, 1942, a communication from the President was sent to the House of Representatives requesting \$300,000,000 for "extended unemployment compensation benefits." This recommendation apparently is not related to the proposed disability and hospitalization payments, but refers only to problems of unemployment occasioned by the changing of industrial plants from the production of peacetime goods to the production of war materials. Officially, this is the status of a recommendation thrown by the President recently into the whirlpool of public opinion. The discussion of the problem is agitating leaders in the fields of prepayment plans for medical care and hospitalization, hospital management, and medical practice.⁴

Public opinion at the present time is focused upon rising income taxes, shortages in consumer goods, rationing of rubber and sugar, and queries from the Pacific: Where are the planes?

In numerous addresses [continues the J.A.M.A.] and in hearings before legislative bodies since 1938, Mr. Arthur J. Altmeyer, chairman of the Social Security Board, has continued frequently to suggest cash benefits

to persons unemployed because of sickness and the provision of constructive social services to supplement cash aids, including medical care. Obviously every proposal for expansion of the social security program must, therefore, be viewed in the light of the ultimate goal set by Mr. Altmeyer. Even though the House of Delegates of the American Medical Association apparently approved unreservedly the principle of cash benefits for those sustaining loss of wages because of sickness, the provision of cash payments of \$3 a day to the worker who is hospitalized must be considered as part of a movement toward complete plans for compulsory sickness insurance on either a cash or a medical service basis.

We are as sympathetic to the "problems of unemployment occasioned by the changing of industrial plants from the production of peacetime goods to the production of war materials" as anyone else, including the President and the Social Security Board. We should like, however, to be more certain of the national security, as evidenced by the actual production and effective use of planes and other offensive war materials, before entertaining elaborate and "radical proposals for changing the whole system of American living in sickness or in health." In this we feel that we would be overwhelmingly supported by public opinion. It would not matter greatly what system of medical care prevailed in a defeated nation.

Too little and too late. These bitter words, leaving much unsaid, stand as a fitting monument to thinking which has not placed first things first. Then in France, for example, then in Britain, and now—

The new proposals of the President, apparently emanating from the Social Security Board, must not be viewed in the light of circumstances as they prevailed in 1938, but

¹ Editorial, J.A.M.A. 118: 820 (Mar. 7, 1942).

in the light of conditions as they exist today. The intervening period has witnessed an extraordinary expansion in voluntary hospitalization insurance and in so-called medical service plans. Today some fifteen million persons are insured against the costs of hospitalization in a variety of agencies, including private insurance corporations, mutual non-profit plans like the Associated Hospital Service of New York, and hospitalization plans set up on a nonprofit basis in various states. At least fourteen states and numerous counties have developed voluntary plans to cover the costs of medical care. An extensive experimentation is now in progress which should lead ultimately, if not too greatly disturbed, to the development of procedures distinctly American in their characteristics and wholly capable of meeting the needs for medical and hospital service. These are likely to be adapted to the American system of government rather than modeled after those plans of medical care and hospitalization which have prevailed in foreign countries, and which have been developed under concepts that are socialistic, communistic, or totalitarian rather than democratic.



There is a sickness, a sickness of the spirit, of the mind's eye, a legislative myopia, which seems to blur and distort the shape of distant things. Such as the war in 1941, for example.

Mr. Arthur J. Altmeyer stated his point of

view positively to the Congress when he said in July, 1941:

"Our eventual goal should be the establishment of a well-rounded system of social insurance to provide at least a minimum security to individuals and their families due to unemployment, sickness, disability, old age, and death. In addition, we must provide a series of constructive social services to supplement the cash aids provided under social insurance. Medical care should be available to individuals and their families so that we may build a healthier, happier nation. Such a system of medical care would be instrumental in reducing the costs of cash payments for sickness and disability."

Mr. Altmeyer speaks of a "minimum security to individuals and their families." We could wish that this could be guaranteed not by a "series of constructive social services to supplement the cash aids provided under social insurance," but by the maximum production of such things as ships, guns, tanks, and planes of which our industry is capable. After this is an accomplished fact, under a legislative and productive program which actually puts first things first, let us consider the matter of insurance—not before. Until then, is it too much to ask that medical services be left undisturbed under such a system as the physicians have developed and which seems to be working?

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Reservations for the Annual Banquet

..... are now being made. Requests should be sent to Alfred M. Hellman, M.D., chairman, Banquet Committee, Medical Society of the State of New York, 292 Madison Avenue, New York City. Or, you can telephone—Murray Hill 3-9841. Tickets are \$5.00.

The banquet will be held in the Waldorf-Astoria Hotel on Tuesday, April 28, at 7:00 P.M.—a *must* occasion for everybody.

AUROTHERAPY IN LUPUS ERYTHEMATOSUS

A Study Based on a Further Experience of Fourteen Years

PAUL E. BECHET, M.D., New York City

IN 1890 a great impetus was given to the use of gold therapy. This was largely due to the statement of Robert Koch at the Tenth International Medical Congress in Berlin that potassium gold cyanide, even in such small dilutions as 1:1,000,000, prevented the growth of the tubercle bacillus in cultures. On Koch's invitation, von Behring made further investigations, and his results were confirmatory.

Brück and Glück¹ used potassium gold cyanide in cases of lupus vulgaris, but they also used tuberculin. They believed that they had observed an increase in the favorable influence of the gold on the lesions with the use of tuberculin. Bettman² also believed that the favorable influence was due to the combined use of tuberculin and potassium gold cyanide. Bue³ used gold chloride with good results in the treatment of persons with tuberculous adenitis. Feldt,⁴ in a series of monographs, reported the use of another gold compound, 4-amino-2-aurothiophenolcarboxylic acid. This was extensively used in both cutaneous and internal tuberculosis not only by Feldt but also by many other German investigators. Ruete⁵ reported complete healing in a case of acute lupus erythematosus after seven injections of the compound.

Martenstein⁶ used amino-aurothiophenolcarboxylic acid in the treatment of 42 patients, with cure in 28 and improvement in 6. Favorable results with amino-aurothiophenolcarboxylic acid were also reported by Fried⁷ and Ullmann.⁸

Møllgard⁹ stated that experiments with the different kinds of gold therapy were made on animals only by Kolle and Schlossberger¹⁰ "who were only able to show retardation of death of small tuberculous animals which were treated with krysolgan (amino-aurothiophenolcarboxylic acid) injections, and this retardation was not more pronounced than with the copper compounds or different derivatives of iodine."

It then remained for Schamberg, Harkins, and Brown¹¹ to publish their results with gold compounds in the treatment of animals with experimental tuberculosis of the skin. These

authors stated that they had observed a demonstrable effect on the cutaneous lesions after injections of gold compounds and in some of the animals a prolongation of life considerably beyond that of the controls. The same authors noted that a favorable influence was induced by gold therapy but that definite cures were not obtained. In their experiments they used such various gold compounds as sodium-gold-arsphenamine, gold-naphthol-blue, gold-hexamethylenaminthiosinamine, gold-hexamethylenamin-thiocarbamide, gold and sodium thiosulfate, and a gold protein compound.

In a later communication Schamberg and Wright¹² stated that they used gold and sodium thiosulfate in 24 patients suffering from lupus erythematosus with the following results: The lesions disappeared in 5 cases; in 6 cases they were practically healed; improvement occurred in 12 cases; and a number of patients were still under treatment. Only 1 patient did not show improvement. The authors stated: "For a disease which in the past has been so obstinate and intractable as to be regarded as the 'bête noir' of dermatologists, these results, to say the least, are noteworthy."

Whitehouse and Bechet¹³ in 1927 reported the use of gold over a period of four months in 30 cases of lupus erythematosus with the following results: complete disappearance of the lesions in 4 cases; 4 cases, practically well; 11, greatly improved; 10, slightly improved. Only 1 did not show improvement.

Rivelloni¹⁴ reported a cure in 6 of 16 cases, great improvement in 3, slight improvement in 6, and no change in only 1 case. Haxthausen¹⁵ treated 109 patients, with cures in 35 per cent and considerable improvement in 30 per cent. Scolari¹⁶ reports the highest percentage of cures: 25 (80.6 per cent) of 31 patients treated with 4-amino-2-aurothiophenolcarboxylic acid. Towle¹⁷ tabulated the largest number of cases of lupus erythematosus in which gold compounds were used, reporting 420 cases (319 in America), of which 163 (51 per cent) were cured, 134 (42 per cent) were improved, and only 22 were failures (6.8 per cent). Of 101 foreign cases, there were 46 cured (45.5 per cent), 49 improved (48.5 per cent), and 6 failures (5.94 per cent). Towle

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, May 1, 1941.

believed that the 5.5 per cent increase of cures in the American cases was due to the increased efficacy of the American gold and sodium thiosulfate.

Strandberg¹⁸ reported 42 per cent cured, 27 per cent almost cured, and 20 per cent improved in a group of 84 cases of lupus erythematosus treated with gold compounds.

Wright,¹⁹ in a paper read at the Fifty-eighth Annual Meeting of the American Dermatological Association in 1935, stated the results obtained with aurotherapy in 76 patients with lupus erythematosus observed over a period of ten years. Of this number, 28 (37 per cent) were cured, 26 (34 per cent) were greatly improved, 13 (17 per cent) showed moderate improvement, and 9 showed no improvement.

Franklin²⁰ treated 31 patients with sanocrysin (gold sodium thiosulfate). Of the 31, 20 were cured, 4 were improved, and 7 remained unchanged. The period of observation of the cured patients covered two and one-half years.

Results of Treatment with Gold Compounds Based on Personal Observation

Since my first report on aurotherapy in 1927, I have observed therapeutic results from gold in approximately 125 dispensary cases and about 30 private patients. I shall make no attempt at tabulation because of its inherent difficulties in reference to therapy. Patients who disappear after inadequate attendance, those who come only at irregular intervals, and those who are totally indifferent to medical advice all contribute to these difficulties. Again, there is the question of definition. For instance, what signifies a "cure"? What does an author mean by "marked" improvement, "slight" improvement, etc.? It is all too elastic to be compressed into a table. It might well be that a cure could be claimed if the patient remains free from lupus erythematosus for five years after aurotherapy, yet I have observed, in private practice, a recurrence ten years later. For these reasons I shall at this time give you only a résumé of my own experiences with aurotherapy.

One of the most outstanding was the first case treated by me with gold. This patient, presented before the New York Dermatological Society on February 15, 1927,²¹ was a man, aged 50, who was suffering from lupus erythematosus of the chronic discoid type for twenty-three years. The entire face was involved with angry red, scaly, infiltrated lesions. He had been treated so vigorously with solid carbon dioxide, cauterants, and the roentgen

rays that throughout the active areas of lupus erythematosus there was a severe radiodermatitis and extensive scarring. Both ears had been so severely burned that one had been entirely removed because of extensive carcinomatous degeneration, and the other was partially destroyed by an active epithelioma which was still present. As gold sodium thiosulfate had not as yet been manufactured in America, I used a gold protein compound kindly sent me by Dr. Schamberg. Immediately after each injection the patient suffered a nitritoid crisis, followed by a rise of temperature and a severe local reaction at the site of the eruption, all of which subsided within twenty-four hours. These reactions did not seem to have any effect on his general health and, as the improvement, even from the first, was almost phenomenal, the injections were continued until supplies of gold sodium thiosulfate became available. With the use of the latter drug these nitritoid reactions ceased, and the improvement continued until, after several years of continuous treatment in which the patient received a total of some 15,000 mg. of gold sodium thiosulfate, he made a complete recovery. Seven years later he was still well, and when seen again about one year ago he had remained well for twelve years. The remaining epithelioma of his one ear had been excised some seven years previously without subsequent recurrence. He seemed in robust health. A check-up of his blood, urine, and chest showed normal findings. The administration of 100 mg. of gold sodium thiosulfate approximately once a week for several years had apparently caused no ill effect. It must be well understood, however, that this enormous dosage is not advised and was given at a time when it was thought perfectly proper to give such doses. However, it is my definite opinion that this spectacular therapeutic result was due to the excessive use of the drug and would not have occurred with our present-day doses of 50 mg. or less.

Another instructive case was presented by me before the Atlantic Dermatological Conference on December 16, 1925.²² The eruption consisted at first of large scaly plaques of lupus erythematosus over the face and upper part of the neck only, which had been present for one year. The patient's general health was excellent. The lesions were typical of the discoid type. Without my knowledge, the patient received a single but severe erythema dose to the face with the air-cooled quartz lamp, the chest and upper part of the

arms being left unprotected. A severe burn ensued, which immediately assumed the characteristics of an acute disseminate lupus erythematosus over the exposed area, and shortly thereafter lesions appeared on the extensor surfaces of both hands. Later on, he became quite ill, developed a chronic cough and lost much weight. A physical examination of the chest was negative. The sputum was free from tubercle bacilli, but roentgenograms showed a bilateral peribronchial thickening. After seven or eight injections of the gold protein compound, given me by Dr. Schamberg, in doses of 5 to 10 cc., the disseminate lesions had entirely disappeared, leaving only a few small scattered discoid lesions on the face. The patient's general condition improved rapidly; within a few weeks he gained more than 18 pounds in weight. Several months later he seemed to be in good health and stated that he felt entirely well. Other than burning and itching over the site of the eruption within twenty-four hours after treatment, there were no reactive manifestations.²³

This complete lack of untoward reactions in a severe case of disseminate lupus erythematosus might be attributed to the reasons advanced by Schamberg²⁴ in discussion of my paper in 1927, as follows: "My personal feeling is that in these cases it is better to use a gold protein compound, which has a much lower toxicity than the gold or silver thiosulfate and which may be sufficient to bring about a favorable result." Certainly, in this day we do not, and rightly so, use gold in acute disseminate lupus erythematosus with constitutional symptoms, but in the sub-acute disseminate type without any constitutional symptoms I have used it in small doses, keeping a careful check on the white blood cell count, the occurrence of pruritus, renal complications, or constitutional symptoms, and I have achieved excellent results.

An additional fourteen years of experience in aurotherapy in approximately 125 dispensary cases and 30 private cases has only enhanced my first opinion—namely, that in gold sodium thiosulfate we have an agent that despite occasional recurrences, occasional more or less severe reactions, and even at times complete failure in a small percentage of cases, is the best single remedy for lupus erythematosus. I shall not enter into a discussion of the relative merits of gold or bismuth in lupus erythematosus since it is not pertinent to this paper, but I must confess that in the inveterate types of lupus erythemato-

sis I have observed more frequent and permanent improvement when gold has been used.

The Question of Dosage in Relation to Its Efficacy

There is no doubt in my mind that we do not at present observe so much material improvement or so many cures from gold sodium thiosulfate as we formerly did, but I believe that this is entirely due to its use in smaller doses because of the well-founded inherent fear of the drug due to more or less severe reactions and even death. These reactions will be analyzed in another section.

Therapeutic results with gold sodium thiosulfate in my personal experience have not lessened with the passing of time. I have, through long experience, developed certain simple plans of procedure which seem to me to have greatly lessened the chance of accidents. From the beginning I have used only gold sodium thiosulfate, since I have found this preparation most trustworthy. My first dose is from 2 to 5 mg. and, in the absence of nitritoid reactions, leukopenia, pruritus or dermatitis, or renal irritation, the dose is raised weekly to 10, 25, 50, 75, and up to a maximum of 100 mg. My invariable rule when administering gold is to keep a watchful eye on the leukocyte count, on the occurrence of pruritus or dermatitis, or on the appearance of renal irritation, and I warn the patient about the danger of excessive actinic exposure. Leukopenia and pruritus especially are the danger signals in aurotherapy, and in their presence gold should be discontinued altogether. If this rule, first advocated by Weiss, Lane, and Bagby,²⁵ were invariably followed, a great many accidents could be avoided. Wright²⁶ states that when the leukocyte count is 6,000 or less he uses bismuth therapy to bring it up and, when it reaches a higher level, he safely substitutes gold therapy. This might prove an excellent practical suggestion, well worth further trial. I have leukocytic counts done at frequent intervals. In this way I have given thirty to sixty or more injections of gold of 100 mg. each, without accident. I have found that at times extensive improvement did not begin until twenty-five or even more injections had been given, so that I do not discontinue aurotherapy because of nonimprovement until at least twenty-five injections have been administered.

Following the method outlined, I have observed striking improvement and even com-

plete disappearance of lesions in such intractable variants of lupus erythematosus as the hypertrophic type and the infiltrative type so commonly seen on the eyelids.

The Problem of Reactive Manifestations

Reactions were recognized in the very beginnings of aurotherapy in this country. In a paper on the subject of aurotherapy read by me, in collaboration with Dr. Whitehouse, before the Section on Dermatology and Syphilology of the American Medical Association on May 19, 1927, only three months after the introduction of the method in the United States by Schamberg and Wright, nitritoid reactions from gold protein were reported in 1 case, and 2 cases presented a mild generalized vesicular dermatitis which soon cleared up. These were the only reactions observed in 37 patients receiving thirty to forty weekly injections of gold in doses of 100 mg. each. The nitritoid reactions in the case in which gold protein was used were believed by me to be caused by the protein in the compound and not by the gold. This belief was shared by Dr. Schamberg in a personal communication. Wright,²⁷ ten years later, stated that no immediate reactions had been noted either by him or by Schamberg after the substitution of gold sodium thiosulfate for the gold protein.

The classification of the various types of reaction made by Driver and Weller²⁸ in 1936, still excellent, follows: (1) immediate reactions, including anaphylactic reactions, febrile reactions, metallic taste in the mouth, and protein reactions to colloidal gold; (2) delayed toxic reactions, including stomatitis, gingivitis, hepatitis, digestive disturbances, and albuminuria; (3) reactions involving the skin; (4) death. Driver and Weller referred to 34 instances of death after the administration of gold compounds, but in this number are 21 deaths after the use of gold compounds given in large doses in advanced tuberculosis Morland and Zimmerli,²⁹ for example, reported a death in ten days after a single dose of 600 mg. of sanocrysin. Dumarest³⁰ and his coworkers reported a death following a single dose of 750 mg. of sanocrysin. Friedemann, Kwasniewski, and Deicher³¹ reported a death from apoplexy due, in their opinion, to activation of an old cerebral syphilis. This is an interesting observation in view of the fact that Ayres,³² in discussing the paper of Driver and Weller, reports an instance in which gold thiosulfate was used to obtain a provocative Wassermann reaction in a case in which the

diagnosis was in doubt. Ten days later, the previously negative Wassermann reaction was 4 plus. Ayres, in the same discussion, stated that he used the phenolsulfonphthalein test in order to detect renal insufficiency prior to the use of gold thiosulfate. He believed that he had saved himself from some bad results by this procedure.

Deducting the 21 deaths after the use of gold compounds in tuberculosis of the internal organs, which Driver and Weller state were due to the large doses used, we see in this same report 13 deaths attributed to the use of gold compounds in lupus erythematosus. Let us analyze them, eliminating the most improbable and submitting reasons for so doing. In 3 of the fatalities, death occurred after the administration of crisalbine (gold sodium thiosulfate): One death occurred after the injection of 600 mg. in the space of two weeks; the second death followed twelve weeks after five injections of 250 mg. each; in the third case the patient was given six injections of 100 to 500 mg. each, and ten months later, because of a recurrence of the lupus erythematosus, she received twenty injections of 250 mg. each. In these 3 cases reported by Gougerot and Burnier,³³ they themselves state that the fault of the drug was not conclusively proved. As Driver and Weller stated, the doses used were entirely too large. In another death³⁴ the fatal result followed the use of crisalbine in a case of lupus erythematosus disseminatus, in which in one week 170 mg. were given despite a febrile reaction and extension of the disease after each injection. The patient then received, at two-day intervals, injections of 1 mg., 2 mg., 5 mg., and 12 mg. each of aurophos. Despite severe prostration, three more milligrams were given. The patient died two days later. The reasons for death are too obvious to discuss. To give a gold compound in an acute disseminate lupus erythematosus and to continue its use in the face of severe reactive manifestations is only to court disaster.

Another case, reported by Jausion,³⁵ received six injections of crisalbine in doses of 250 to 500 mg. each at five-day intervals. Death followed in ten days. Jausion stated that in his opinion the doses were too large. Another death was observed by Mitchell³⁶ who gave a single injection (dosage not stated) of a gold compound to a patient with an acute disseminate erythematous lupus, and the patient died. The patient was in a hopeless condition before the injection, and Mitchell did not believe that the drug was responsible.

This leaves us then, out of a total of the 36 deaths, with 6 that can be clearly ascribed to gold sodium thiosulfate in the treatment of lupus erythematosus in the period between 1927 and 1931, the period of the greatest activity in aurotherapy. It is an extremely low death rate considering the fact that hundreds of cases of lupus erythematosus received thousands of injections of gold compounds in that space of time. Of course, a single death from such a source is deeply to be regretted, but is it not true that had we been deterred from using arsphenamine by the several hundred deaths that occurred early in its use we should have lost an invaluable aid in the treatment of syphilis? In my opinion, this holds equally true of gold. From an extensive personal experience I firmly believe that it still is the most efficacious remedy we possess in the treatment of lupus erythematosus and that accidents from its use can be greatly lessened by a careful watch for the occurrence of leukopenia, pruritus, dermatitis, and deficiency of kidney function. Gold should never be used in lupus erythematosus disseminatus of the acute variety with constitutional symptoms or in lupus erythematosus complicated by pulmonary tuberculosis because of the possible danger of activating the tuberculous processes. During aurotherapy, any excessive exposure to actinic light must be avoided. If any single one or a group of these contraindications appears during aurotherapy, it should be immediately discontinued.

Doses should be started at 5 mg., and in the absence of any of the above danger signals it can be raised weekly to 10, 25, or 50 mg. If progress is satisfactory, this dose need not be exceeded. Unfortunately, however, there are many cases that require doses of 100 mg. once a week to obtain maximum therapeutic results, and I have given such doses without accident in a great number of instances and over a considerable period of time.

May I close in the hope that I have been able to disperse some of the opprobrium under which aurotherapy is laboring at the present time. In my opinion it is wholly undeserved, since the remedy, used with due caution, has in my hands proved of the greatest value in lupus erythematosus, with no accidents in private practice and few in dispensary work.

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Discussion

Dr. Rudolph Ruedemann, Jr., Albany, New York—A pinch hitter is always on the spot especially when opening a discussion extemporaneously on such an interesting timely subject, which Dr. Bechet has covered so thoroughly. He has left little to be added and I am 100 per cent in accord with the opinions expressed.

Gold treatment is somewhat on trial at present because of untoward reactions experienced in its use in arthritis. This has made itself felt in the management of lupus erythematosus—a tendency to reduce dosage. In this diminution good therapeutic results have suffered—many have turned to other forms of treatment. It is difficult to explain the reactions in arthritis. Dermatologists have been using this for about fifteen years in large doses with few severe reactions. In that period I can recall only two severe but not fatal reactions which necessitated cessa-

tion of treatment. Formerly, I gave 50 to 100 mg. without hesitation. Then came a period of conservatism which also influenced the arsenicals. I dropped to 10 to 25 mg. doses and the results were none too good. Recently, I have stepped up the dose of gold sodium thiosulfate with better results.

I can readily endorse Dr. Bechet's suggestion as to a thorough check-up before treatment is instituted and a careful observation during the treatment period. I always insist on a general check-up, which includes a complete blood examination and a chest x-ray.

In the interim, while undergoing examination,

I have the patient take his morning and evening temperatures. As a rule, reactions were found in patients showing an evening temperature rise.

It seems to be the rule to handle the subject of etiology with regard to lupus erythematosus with kid gloves if it is mentioned at all. I wish someone could definitely establish the relationship of tuberculosis to lupus erythematosus or vice versa.

It is an interesting worthwhile paper, and I am pleased that Dr. Bechet has again brought aurotherapy back into the therapeutic fold with dosage sufficient to give therapeutic results.

ACUTE SHORTAGE OF PSYCHIATRISTS

Quite apart from the contingency of war, psychiatry faces a great national emergency. One-half of the 500,000 hospital beds in this country are occupied by psychiatric patients; approximately 1,000 psychiatrists attempt to care for this vast group; while for all those cases of unhospitalized psychoses and the even greater number of neuroses and character disorders in the rest of the country's population there are only about 1,000 more psychiatrists. It is apparent that with this shortage of psychiatrists, good psychiatric care for millions of people who need it is not available. It is emphatically true, as Raymond B. Fosdick stated in his 1938 report to the Rockefeller Foundation, that mental hygiene represents one of the most underdeveloped areas in all medicine. "In no other field," he continued, "is the need more desperate or the potentialities for useful advances more promising. It is not necessary to recall the fact that cases of mental and nervous diseases occupy more hospital beds in this country than all other diseases combined. One has only to look about him at the tragic examples of human maladjustment and inadequacy in everyday life. Because the field is relatively so difficult, it has lagged far behind other developments in medicine."—*From The Bulletin of the Menninger Clinic*

THRIFT GUIDANCE TAUGHT IN SCHOOLS

There is already in America \$15,000,000 worth of evidence that the school children of today will know exactly what to do with their money if and when they become the millionaires of tomorrow. And, according to H. Thompson Rich, writing in the December issue of the magazine *Tomorrow*, the records of the American Bankers Association show that the "if" is not insurmountable. "Already three million pupils, in ten thousand schools, carry with American banks some fifteen million dollars, and educators envisage the day when thirty million pupils in one hundred thousand schools will boost that figure to a billion dollars."

This news seems miraculous. Moreover, Junior did it the "hard way." He ran errands, he dug in and made small sums in a hundred different ways, and then—this is the hard part—he put the money in the bank. A new subject, now being taught in the schools of forty states and the District of Columbia, was responsible for this. "Thrift Guidance," Mr. Rich writes, "is the textbook name of the subject. A natural outgrowth of the school bank idea, it now seeks a place on the curriculum along with manual training and domestic science. Tomorrow will see it compulsory in every tax-supported educational institution in the country."

TEN COMMANDMENTS FOR SUCCESSFUL GROUP CONFERENCE

The Eighth Health Education Institute that preceded the regular sessions of the seventeenth annual meeting of the American Public Health Association started off, as have its predecessors, with the wise idea of giving the leaders of the meetings some valuable suggestions on how best to make their group conferences a real exchange of ideas instead of degenerating, as so often happens in meetings of this kind, into rostrums where individuals may air their pet theories.

Dr. H. A. Overstreet, president, American Association for Adult Education, and professor emeritus of philosophy, College of the City of New York, gave an impromptu and informal talk

on how leaders of group conferences by the careful use of certain basic psychologic rules can focus the attention of participants on a logical, coordinated development of ideas and conclusions.

- 1 Make it a two-way process
- 2 Induce a sense of belonging
- 3 Be a weaver of thread of argument into a fabric
- 4 Bring out the shy
- 5 Keep down the voluble (without letting them know they are being kept down)
- 6 Never suppress anyone
- 7 Bring about a sense of accomplishment
- 8 Start from common experience
- 9 Have a sense of humor
- 10 Respect terminal facilities

—*Health News*

INJURIES TO THE CERVICAL VERTEBRAE

BARBARA B. STIMSON, M.D., F.A.C.S., New York City*

THE number of articles on this subject appearing in the literature of both Europe and America in recent years bears witness to an awakened interest. No longer is a broken neck looked upon as a hopeless case to be treated by palliative means until such time as the inevitable outcome releases the victim. Application of the fundamental fracture principles of early reduction of deformity with adequate immobilization has brought about a change in point of view. Methods of reduction have been modified and improved, skeletal traction for these injuries has been devised, and operative fixation has been utilized in certain cases. Fatalities still occur, but permanent paralyses are less frequent and complete return of anatomy and function is no longer the exception.

Injuries to the cervical vertebrae can be caused by many types of accidents. Because of its mobility and its position above the relatively fixed thorax, the neck is particularly vulnerable. Dives into shallow pools, automobile accidents, and falls from a height are classic examples of causative factors. What is frequently overlooked, however, is the fact that far less dramatic traumas occurring when the cervical muscles are relaxed and off guard are responsible for many minor displacements of the cervical vertebrae which, if unrecognized and unreduced, may cause much subsequent discomfort to the patient. These milder forms will be discussed in the second part of the paper.

The mechanism of injury in the more severe types of displacement is usually that of flexion plus compression of the neck between head and thorax. With this there may also be a twisting or rotating force. There may result, therefore, complete dislocation either of one or of both articulating facets, with or without associated fracture, or there may be fracture without apparent dislocation—compression of a vertebral body, a cracked odontoid, a

fractured lamina or pedicle. No two cases are identical, for the combinations of possible injuries are obviously many.

Cord damage may be caused by the initial injury, by mechanical pressure of the displaced bone, by hemorrhage, or by edema. It may be complete or partial, progressive or retrogressive. The treatment will not be discussed, except insofar as it is included in the treatment of the bone lesion.

The diagnosis of any injury to the cervical vertebrae depends on the history of injury, on symptoms and signs, and on adequate roentgenographic study. Pain is a predominating feature, usually more marked in fracture than in uncomplicated dislocation. Disability is usually marked. The patient guards his neck from any movement and may hold his head in his hands. Deformity will be present if displacement has occurred, but it naturally will be absent in undisplaced fractures. If the displacement is due to a unilateral dislocation, the head will probably be tilted to the side of the lesion but the chin turned away from it. If the displacement is bilateral, the head will be flexed and possibly projected forward. If the dislocation is high, the projecting vertebra may be felt in the posterior pharyngeal wall. Tenderness may be well localized over the injured vertebra, and a deformity of the vertebral column may be palpable. The examination should, of course, include a careful estimate of neurologic findings for cord or nerve root damage.

Roentgenograms are essential to determine, if possible, the presence of fractures that cannot be proved in any other way. Lateral views must be taken as well as anteroposterior views, and a view of the odontoid through the open mouth is strongly urged in every case of suspected injury to the cervical vertebrae. To allow a patient to walk around with an unprotected crack through his odontoid process is a little like allowing him to carry a ticking time bomb in his pocket.

The treatment of these cases, as in any case of fracture or dislocation, should begin at the time and at the place of injury. There are few, if any, conditions in which first aid or immediate treatment is more important. The patient should be transported on his back with his head and neck held steady between

*Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, May 1, 1940.

From the Fracture Service of the Department of Surgery, Presbyterian Hospital and Columbia University

*Dr. Stimson sailed last August to serve one year with the Emergency Medical Service of the British Ministry of Health. Word has just been received that Dr. Stimson has been made a Major in the Royal Army Medical Corps (British) and has been assigned to the Military Hospital in Shenley, Hertfordshire.

sand bags, or preferably between the hands of a responsible person. Mild traction on the head should be maintained, if possible. Until the diagnosis is established, the patient should not be allowed to sit up or stand. Cases of sudden death have been reported which were caused by unguarded flexion of the head. Brookes states that "these injuries demand more prompt attention than an acute abdominal condition."¹

After the diagnosis has been reached, treatment should immediately be instituted. Correction of any existing deformity is the first consideration. Any hope of regaining cord integrity, if this has been damaged, lies primarily in removing the mechanical pressure of the displaced bone. Reduction can be accomplished by manipulation, by traction, or by open operation. The Walton maneuver of retrolateral flexion with rotation, described in 1893,² has proved satisfactory in certain cases in the hands of skilled operators. Taylor,³ in 1924, described a somewhat simpler procedure, consisting of strong traction by means of a halter around the patient's occiput and chin and around the operator's waist, which leaves the operator's hands free for any necessary manipulation. Both procedures should be done under anesthesia and checked by roentgenograms. A plaster cuirass should be applied immediately to prevent redislocation.

Because of the potential dangers involved in manipulations, reduction by prolonged traction has been advocated. A simple head halter, with a pulley and weight at the head of the bed, has the disadvantage of pressure on chin and occiput and considerable discomfort to the patient. The grooved air mattress, described by Stookey,⁴ provides traction by the weight of the head and is of particular comfort for the paralyzed patient. Nicholson⁵ has worked out a similar method by the use of three ordinary mattresses, also utilizing the weight of the head. Where a stronger force is desired, skeletal traction has definite advantages, allowing more accurate control of position and yet greater freedom for the patient.⁶ The traction may be exerted either through ice tongs carefully inserted into the skull, as described by Crutchfield⁷ and others, or by wire loops passed through drill holes in the skull, as described by Cone and Turner.⁸ Whichever method is used, adequate immobilization is essential after reduction has been accomplished.

Certain cases are encountered, however, in which reduction by any of the above-de-

scribed methods is unsuccessful or cannot be maintained, and operation must be resorted to. Fusion by the Hibbs method or by grafts, as described by Cone and Turner, has been successful, especially in cases with long-standing deformities. Wiring of the spinous processes has been found of value in certain instances.

On the Fracture Service of the Presbyterian Hospital we have had relatively little experience with the more serious injuries to the cervical vertebrae for two reasons: First, we have no ambulance service and, second, any patient with damage to cord or nerve roots goes to the Neurological Institute. Therefore, our series of cases of fractures and dislocations is small. We have seen 20 in the past twelve years. Of these, 4 showed undisplaced fractures requiring immobilization only; 8 had fracture dislocations reduced by head halter traction or by the Stookey mattress; 3 were unsuccessfully treated by traction and required manipulation under anesthesia for complete reduction; 2 were fused and 1 other was sent to another hospital for fusion, all relatively late cases; 1 unsuccessfully treated by traction and by manipulation because of a fractured articular facet, refused operation; and, finally, 1 had a fracture dislocation of six years standing, for which we did little except apply a leather collar. That is not an imposing list or one from which conclusions can be drawn. However, among them are 3 cases of sufficient interest to warrant a brief description.

Case Reports

Case 1.—A man, aged 26, was seen half an hour after he had been injured in an overturned car. He complained of pain and stiffness of the neck. Motions of the cervical region were painful and motions to the right were limited. No neurologic findings were present. Roentgenograms showed a complete forward dislocation of the third cervical vertebra on the right with a fracture just beneath the interarticular facet across the pedicle, the fragment being carried forward with the displaced vertebra. Head halter traction with 15 pounds weight for forty-eight hours produced no change; nor did two attempts at reduction under general anesthesia help. Operative interference was advised but refused by the patient; therefore, a plaster helmet and cuirass was applied. This was replaced in six weeks by a leather collar, which he wore for nearly ten months. We followed this man for seven years. He was able to carry on office work but had a thirty-degree limitation of all neck motions without pain. He developed an area of anesthesia over his right

shoulder extending downward and forward from the outer end of the clavicle which persisted unchanged for seven years.

Case 2.—A woman, aged 38, was injured in an automobile accident in the South four weeks before her admission to the Fracture Service. She had suffered multiple injuries, and the neck condition was not discovered until she was allowed to sit up. Then she complained that her head fell forward. Roentgenograms were made, she was placed in a plaster collar just as she was and shipped North. On arrival, head traction by means of a Stookey mattress was instituted and maintained for eight weeks. Incidentally, she had a broken jaw wired to her maxilla. Reduction was accomplished by the second day. She wore a leather collar for six months. All motions of the neck are now, seven years later, slightly limited.

Case 3.—A post-office clerk, aged 50, appeared in the outpatient department complaining of pain and increasing stiffness in his neck of about six months' duration. He remembered being knocked down by a car about that time but didn't think it had hurt him much. His head protruded forward and was held rigid. A mass of bony hardness could be palpated in the posterior pharyngeal wall. Roentgenograms revealed a complete forward dislocation of the first cervical vertebra with a fracture of the odontoid. No neurologic findings were made out. After forty-eight hours of 10 pounds head halter traction, reduction of the dislocation was complete. Because of discomfort, he was transferred to a Stookey mattress until a leather brace could be made. After three weeks he was allowed up in this collar, which was kept in place for seven months. He went back to work in his collar. He was followed for six years and, when last seen, had moderate limitation of all neck motions with occasional bad weather ache. At no time did he have neurologic signs or symptoms. The odontoid united by bony union, but there seemed to be residual spreading of the elements of the first segment.

These three cases illustrate two relatively successful results obtained by traction and the late result in an unreduced dislocation.

Far less dramatic and, on the Presbyterian Fracture Service, far more frequent are the incomplete unilateral dislocations. We have seen 300 during the past eleven years. The picture is typical: a jerk of the head in an unguarded moment, as on awakening, followed by immediate disability with usually mild pain; the head held tilted away from the affected side; markedly limited lateral bending to the affected. Stereoscopic roentgenograms from each side usually show the upward slipping of one articular facet on the one beneath it.

The condition must be differentiated from

torticollis in which the muscle spasm is on the short side, the side toward which the head is tilted. In a partial dislocation the muscles on the short side are relaxed, on the affected side they are in spasm. In cervical arthritis there is usually a moderate limitation of motion in all planes and no characteristic attitude of the head. Acute cervical adenitis may cause a protective attitude of the head, but the cause is usually easily ascertained. Myositis of the trapezius or "stiff neck" is primarily painful, and the tenderness is found in the affected muscle.

Treatment consists in reduction by any means that will relax the muscle spasm and allow the articular facet to slip back into place. Head halter traction, manipulation, and general anesthetics have all proved successful. Recently, following the suggestion of Dr. Hans Kraus, reduction in early cases has been accomplished by the use of ethyl chloride sprayed on the neck to give a slight skin anesthesia, followed immediately by active motions of the neck. As the patient moves the neck slowly in extension and flexion, from side to side as far as possible, the painful areas are sprayed for a few seconds at a time. It is surprising to watch the range of painless motion gradually increase, and one patient, a doctor, said that he could feel something slip. It may have been wishful thinking on his part. However, he regained complete lateral bending in fifteen minutes. Care must be taken not to burn the skin by too enthusiastic use of the spray. Active motion by the patient is essential, for the ethyl chloride alone is not enough. Its action is probably to relax the protective muscle spasm and allow the patient to reduce his own subluxation.

No immobilizing collar is used after reduction, and the patient is encouraged to exercise his neck muscles at frequent intervals. The method has proved successful in 10 recent cases but has not been satisfactory in partial dislocations that have persisted for several days. If reduction is not accomplished in twenty minutes to a half an hour, the method should be abandoned for some other. So far the results have been good, but the number of cases is too small and the time elapsed too short to do more than suggest it as a possibility.

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Discussion

Dr. R. D. Severance, Syracuse, New York—The choice of this subject is an appropriate one, and I hasten to congratulate Dr. Stimson for her choice and the comprehensive presentation of the subject matter. Her presentation illustrates an adequate experience, fortified by a comprehensive knowledge of the literature. I can but re-emphasize a few of the points made by her. We cannot adequately stress the necessity of intelligent care at the site of the accident. To illustrate this, I shall cite 1 case. A boy, aged 17, missed his footing diving, struck bottom, was helped ashore and, while lying on the beach, moved both arms and legs. He was hastened by ambulance four or five miles to a hospital; on arrival he was totally paralyzed below the neck. He said that the ambulance went over a bump and that he felt stinging pain in his neck and realized he could no longer feel his arms or legs. He died after a long hospital stay. Physicians should grasp every opportunity to emphasize this fact to lay people.

I should like to caution against the indiscriminate use of a general anesthetic for the reduction of a dislocation. Adequate relaxation can usually be obtained by a large dose of morphine and the injection of a local anesthetic into the cervical muscles. Although cord damage can be done without the patient feeling it, it is much less likely. When using skeletal traction, we have applied as high as 36 pounds continuously for as long as three days. The case on whom we used this amount of weight was also manipulated unsuccessfully, and his reduction was never accomplished. He was seen four weeks after injury, and x-ray films five weeks after injury showed callus formation, preventing reduction. The four weeks' case, which Dr. Stimson referred to, was a most fortunate one. I wonder whether this reduction could have been accomplished at this time if it had been complicated by a fracture at facets or pedicles.

We have had no experience in fusing cervical spines for dislocations or fractures. We have had but one recurrence—a dislocation that recurred at the end of two years—upon whom we recommended a fusion; it was refused.

I have reviewed our cases for the past five years and they show certain trends, although numbers are too few for conclusions (see Table 1).

Table 1 tends to show that the death rate from cervical fractures is low under 50 years of age but approaches nearly 50 per cent over that

age. About one-third of all the cases over 50 years old were complicated with skull injury. All of these complications died. About one-quarter of the cases over 50 years old showed dislocations. Of the various causes of injury there is but one significant figure—3 cases resulting from football injuries, 2 of which were complicated by some paralysis and a most gross injury, resulted in complete recovery.

I should like to call attention to the great danger of overlooking an injury of the cervical spine when a patient is seen with a head injury. Whenever feasible, an x-ray of the cervical spine should be made in the presence of head injury, at least if the patient is unconscious. I should also like to suggest that if a cervical spine injury exists or is suspected an adequate supporting apparatus or cast be applied before any head surgery is performed.

We have encountered great difficulty in establishing a diagnosis of fracture in many cases presenting previous disease, notably arthritis. The presence of arthritis warrants a more guarded prognosis as to length of time for recovery and its completeness.

I am particularly interested in the unilateral dislocations or subluxations. We have seen a number of these, especially in the later teen age, but have had 1 boy aged 6. We have felt that such conditions can usually be reduced by manipulation without anesthetic, and we seldom use any fixation afterward. We have followed the various methods described and, if we are not fortunate enough to get a definite snap back into place, we use every trick we know and not a definite routine. The prerequisite to reduction is a continued uninterrupted manual traction for at least five minutes. The head and neck, of course, are held by the operator, projecting off from the table so that manipulation can be done unimpeded in any direction.

There is another type of injury which has been a source of considerable discomfort to patients whom I have encountered. There is an injury that has most frequently occurred when the car is struck from the rear while the patient is sitting in a parked car or riding along. It probably should be called a sprain but, because of circumstances of the injury, I have called it a neck snap. The patients feel immediate discomfort in the neck, in slight degree. They are usually excited at the time and do not think much of the injury. It is frequently followed by nausea, a little dizziness, and sometimes vomiting. The patient does not go to bed but stays up and about, and the symptoms persist over a period of weeks and even months. I have found some numbness over the shoulder and outer side of the arm at times, but usually there are no findings except tenderness in the upper one-third of the neck and laterally down over both sides of the neck. X-rays have been entirely negative. The relief has been by the use of a soft supporting collar and occasionally traction at night. This type

of case is greatly complicated by a pre-existing arthritis. It is in this type of case, where considerable change by arthritis is present, that we never feel sure that fracture is ruled out. The interpretation of films with a large amount of arthritis present is extremely difficult and uncertain, and I have often felt that it was unfair to state that a fracture did not exist. I have in mind a woman who received a snap of her neck by slipping from a step. She had considerable arthritic changes. She also fractured her forearm. She never complained of her forearm; in fact, it was reduced without anesthetic and without complaint. She had a considerable amount of sensory change, mostly of the right side, slight of the left arm with considerable motor involvement of the right arm. It would be unfair to say that this woman did not have a fracture or dislocation. It would only be fair to say she had a great deal of arthritis which prevented an accurate diagnosis as to fracture or dislocation.

In conclusion, I should like to re-emphasize the duty of all physicians to educate the public in the care of all spinal injuries at the time they occur and in the necessary care in transporting

TABLE 1

	No.	Cases	
		Died	Paralysis
1. Total Fracture Cases	36		
a. Under 25 years	10	3	7
b. 25 to 50 years	11	1	8
c. Over 50 years	15	6	8
2. Complications			
a. Skull injury			
(1) Over 50 years	4	4	
(2) Under 25 years	1	1	
b. Dislocation			
(1) Under 25 years	2	1	
(2) 25 to 50 years	1		
(3) Over 50 years	3	3	
Causes			
1. Automobile	17	4	
2. Fall	11	4	
3. Diving	3	1	
4. Football	3		
5. Railroad	1		
6. Unstated	1		

them to some shelter. I also hope I have stimulated you to watch out for fractures of the cervical spine in the presence of skull fractures and to realize the necessity for fixation of the cervical spine before skull surgery is performed. May I again thank Dr. Stimson for bringing this subject to us and for focusing our attention to the excellent points she has made in her paper.

TELEPHONE ETIQUETTE

As we respond to a phone call, the voice at the other end of the line is heard to say:

"This is Dr. X's secretary. Will you hold the line a minute. Dr. X wants to talk with you."

And then we wait a minute—or two minutes—or possibly more.

This happens frequently to all of us. We doodle for a minute or two while busy Dr. X comes to the telephone after his secretary has made the contact. It would be more courteous if Dr. X had made the call himself, doodled for a little while waiting for us, and then greeted us personally when we spoke into the receiver. It would have flattered us if he had assumed that we were as busy as he or that our time was worth as much as his.

Relatively speaking, this is a small matter. How our telephone contacts are made will never change the course of history, but in a world in which courtesy is little thought of any more, it would be gracious to do the waiting on your end of the telephone line, rather than let a colleague's nerves become frayed while waiting for you at the other end of the line.—*The Canadian Doctor*

FOUNDATION TO TRAIN PSYCHIATRISTS

The Menninger Foundation, recently organized at Topeka, Kansas, is for the purpose of training psychiatrists and giving postgraduate psychiatric training to physicians in other fields, to carry on psychiatric research, to provide treatment to a representative group of patients who are selected not because of their ability to pay but for their specific needs and their intelligent cooperativeness, and to carry on preventive activities through adequate scientific child study.

Dr. Karl A. Menninger is president of the foundation; John R. Stone, vice-president; Dr. William C. Menninger, secretary, and Dr. Robert P. Knight, treasurer. The other trustees include prominent psychiatrists and philanthropists from various cities.

One of the first projects of the Foundation was the partial sponsorship of a week's seminar last summer on military psychiatry which concerned the neuropsychiatric examination and selection of men for the army under the Selective Service System. The material was published in the *Bulletin of the Menninger Clinic* and the distribution has been over 5,500 copies.

TIPS—FOR YOU WHO ARE WRITING A PAPER

Before you begin the first draft you will do well to read Katherine Frost Bruner's "Valedictory Remarks on Style" in the January issue of the *Journal of Abnormal and Social Psychology*.

Miss Bruner has had much experience in editing scientific papers and tells not only their common failings but offers constructive many suggestions.

EXPERIMENTAL ACUTE GASTRIC ULCER PRODUCED IN ANIMALS BY EXPOSURE TO SULFUR DIOXIDE GAS

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IN THE course of studies still in progress on the effects of certain toxic gases in low concentrations on a variety of animals and plants, ulcers of the stomach were observed in mice and guinea pigs. These studies were carried out at the Boyce Thompson Institute for Plant Research, Inc., Yonkers, New York, by me and members of the staff of the Institute.²⁻⁴ It is the purpose of this paper to discuss some details of the ulcers arising in these animals exposed to sulfur dioxide.

There are two clearly different types of gastric ulcer—the familiar chronic ulcer, which is usually single, small in diameter, confined to the pyloric region, and which tends to perforate all layers of the organ; and the acute ulcer, which is usually multiple, may be large, is commonly on the greater curvature, and usually does not penetrate below the submucosa. In addition, there is an intermediate group in which the lesions tend to be large and are found on the greater curvature but which show definite chronicity, are frequently single or in small numbers, and tend to perforate.¹

According to Mann,¹ chronic gastric ulcers in his experimental animals first appear as thin gray plaques of necrotic tissue on the free surface of the mucosa, the necrosis and digestion then proceeding downward, no notable hemorrhage occurring at this stage; whereas in the acute ulcers the process apparently begins with a hemorrhage in the submucosa which extends to the overlying mucosa with subsequent digestion—a lesion well-termed “hemorrhagic erosion.”

The ulcers to be discussed here have certain characteristics of each group in that while usually multiple they may be single or in small numbers, may begin as necrotic plaques in the mucosa without hemorrhage but later bleed into the deep tissues and often perforate, yet may occur characteristically on the greater curvature and have never been observed in the duodenum.

Apparatus

The apparatus used in this study has been described in detail by Setterstrom and

Zimmerman⁵ and consists of duplicate sets—one for treating animals or other organisms with the gas, the other for controls. Each set includes a glass cabinet of special design, a variable speed exhaustor-blower and an orifice meter for precise control of the volume of air passing through the cabinet, a Thomas autometer and a Leeds and Northrup micro-max conductivity recorder for recording gas concentrations in the cabinet, besides other appliances described elsewhere.^{2,6}

Design of Experiments

Since the principal interest in the original experiments was the toxicity of the gas, the design was such as to determine the time until death of 50 per cent of the exposed animals as a function of concentration. The 50 per cent point was chosen because such a figure can be obtained with greater precision than any other time versus kill value.⁶ It is obvious that this point has no direct relation to the characteristics of ulcers. Several factors such as exercise and intermittent exposure were studied simultaneously but will not be analyzed here.

Experimental Procedure

Full details of procedure may be found in the paper by Weedon, Hartzell, and Setterstrom,² except that although the history of each vertebrate animal has been traced through the many hundreds of pages of “log-sheet” observations and necropsy protocols it was not felt that these voluminous data were important enough to publish in full.

The guinea pigs were weighed at least once a week and a record was kept of their food consumption. They were continually supplied with oats and were given a daily ration of carrots or cabbage. No other water was given.

The mice were watered and were fed “complete ration” dog pellets daily, with occasional rations of cow’s milk.

Experimental Results

Experiment No. 1 (63.7 p.p.m. SO₂).—Ten mature guinea pigs were treated with SO₂ and an equal number of similar guinea pigs were used for controls. On the first day the test animals ate well but after this showed

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loss of appetite. On the fourth day 1 animal became dyspneic, and by the eighth day all were dyspneic. By the ninth day several guinea pigs had visibly distended abdomens. The fifth animal died on the fifteenth day (50 per cent end point). The surviving animals quickly recovered after removal from the gas except that those with distended abdomens remained in this condition for many hours. At necropsy one-third of the total number of test animals showed distention of the stomach, but no hemorrhages or ulcers were observed grossly.

Experiment No. 2 (10.7 p.p.m. SO_2).—This experiment was designed to test the effect of a concentration representing the maximum that might be encountered for any length of time in a city atmosphere. Ten guinea pigs and 10 mice were exposed.

Result: There was no observed change in the test animals.

Experiment No. 3 (33 p.p.m. SO_2).—*Result:* There was no observed change in the stomachs of the test animals.

Experiment No. 4 (25.9 p.p.m. SO_2).—This concentration of SO_2 is frequently encountered for short periods in certain industries.

Result: There was no significant change in the stomachs of the test animals.

Experiment No. 5 (25.3 p.p.m. SO_2).—*Result:* No significant change was found in the stomachs of the test animals.

Experiment No. 6 (109 p.p.m. SO_2).—*Result:* The stomach was usually distended. No ulcers were found grossly, but two stomachs showed large perforations that presumably originated in ulcers.

Experiment No. 7 (151 p.p.m. SO_2).—Distention of the stomach was usual after about forty-eight hours. About 15 per cent of the animals that died showed multiple ulcers from pin-point to 0.3 cm. diameter. The larger ulcers were all accompanied by circular sub-jacent hemorrhages of the wall.

Experiment No. 8 (296 p.p.m. SO_2).—Abdominal distention was pronounced on the third day in the guinea pigs. The 50 per cent end point for the mice was at forty-five hours, but distention was usual in the last few hours. Practically all of the animals showed multiple ulcers and sub-jacent hemorrhages of the stomach, larger and more numerous than those in the previous experiment, frequently coalescing and, in a number of animals, perforating.

Experiment No. 9 (1,014 p.p.m. SO_2).—Distention was observed after about three hours



FIG. 1.

but was not as great as in previous experiments. The 50 per cent end point for guinea pigs under ordinary conditions was twenty-three and one-half hours and in mice four and three-tenths hours. Multiple small ulcers and hemorrhages were found in the guinea-pig stomachs; in mice the lesions were rare and pin point in size.

Gross Pathologic Findings

The ulcers are from pin-point to about 0.5 cm. diameter except where they coalesce or perforate. In the latter case they may occupy half the anterior surface of the stomach. The structure can be seen clearly through the distended translucent stomach wall and in the smaller lesions appears as a gray opaque disk on the surface of the mucosa. Then it appears as a slightly larger, more opaque, ring or funnel, the center being digested. In the third stage a pin-point hemorrhage appears deep in the wall which expands to a disk nearly as large as the lip of the ulcer, the latter, however, usually well defined in perspective above.

Histologic Findings

Upon section of a small ulcer there is seen a striking edema of the wall between the muscularis mucosae and the serosa, with engorgement of vessels causing a nodelike swelling of the entire wall at this point. In the fold of mucosa immediately above only the tip is gone—the lower cells degenerated with pyknotic nuclei but still in place. The adjoining folds of mucosa appear entirely normal (Fig. 1). In a slightly larger ulcer the edema has



FIG. 2.

extended laterally, and the wall beneath the now collapsing fold of mucosa is thinner than the adjacent wall. A small amount of free blood lies in the wall and in the mucosa above (Fig. 2). Finally, the original fold of mucosa lies as a thin mass of blood and detritus on the muscularis mucosae, the now hemorrhagic muscle of the wall is thin and disintegrating, thrombi may be seen in the small vessels, and even the serosa has bulged outward until its cells are flattened to half the thickness of those over the adjacent tissues (Fig. 3).

Discussion and Conclusions

These ulcers are always preceded by acute distention of the stomach, a phenomenon that in itself is not well understood. The effect of the resulting pressure on the vessels branching from the large vessels of the wall to supply and drain the folds of mucosa may well account for part of the pathologic picture.

It is possible that the ingested acid gas may hasten the digestion of the necrotic mucosa, but in view of experiments with other gases as yet incompletely studied this conclusion should not be drawn from the present data.

Both distention and ulceration are functions



FIG. 3.

of concentration of SO_2 within proper time limits, and neither occurs at levels likely to be found in the air of any city. Thus, in Experiment No. 5, 14 guinea pigs and 30 mice were exposed under varying conditions of exercise, rest, etc., for 1,137 hours (about one-fifteenth the usual lifetime of a mouse), without effect.

Distention and ulceration are functions of length of exposure at proper concentrations. At 1,000 p.p.m. the 50 per cent death point was reached at about twenty-four hours in guinea pigs, and the ulcers were less numerous than at 300 p.p.m. for 153 hours.

Size and number of ulcers are also affected by concentration and time, the optimum conditions in these studies being 300 p.p.m. for about three days. Perforation, however, occurred at all concentrations that produced grossly visible ulcers, and the perforations were usually extremely large. These large lesions may have been caused by thrombosis of vessels larger than those usually affected.

Summary

The occurrence and nature of gastric ulcers in guinea pigs and mice exposed to controlled concentrations of sulfur dioxide have been described. Concentrations of 10, 25, 35, 65, 100, 150, 300, and 1,000 p.p.m. (in round numbers) were tested.

No effects on the stomach were observed below 65 p.p.m.

At 65 p.p.m. one-third of the animals showed

acute distention of the stomach on the ninth day, and at 100 p.m. half the animals showed distention about the fourth day, while two perforations of the stomach occurred. At 300 p.m. most animals showed distention and multiple hemorrhagic ulcers on the third day. Perforations were frequent. At 1,000 p.m. the ulcers were less frequent and of smaller size, but the life span was shorter.

The gross and microscopic appearance of the lesions has been described.

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BUSINESS WOMEN PROMOTE HEALTH EXAMINATIONS

The National Federation of Business and Professional Women's Clubs, Inc., under the presidency of a physician, with a health advisory committee under the chairmanship of a physician, and with one additional medical member, one dental member, and three lay members, has issued a leaflet entitled "Are You Fit for the Job?"* This pamphlet explains the health appraisal project of the federation, recommending an annual physical examination for every business and professional woman.

The pamphlet analyzes the importance of health and fitness for the job. It sets forth three health ratings—the ideal, which is never wholly attainable; the actual, which is "often far below that which is possible and practicable for the individual," and the attainable, "the health that one might have with the normal appreciation and realization of health that is reasonably available for the individual." The pamphlet reproduces a health-appraisal form which is to be offered the examining physician. It includes a philosophy of health and fifteen points in a healthy personality.

The pamphlet also supplies instructions for health-appraisal projects for local business and professional women's clubs, including a meeting for discussion to be followed by efforts to attain 100 per cent physical examination by physicians, followed by appropriate corrective measures.

Accompanying the pamphlet is a four-page,

letter-size folder carrying on its first page an introduction "To the Examining Physician: The patient presenting herself to you for examination is a member of the National Federation of Business and Professional Women's Clubs who wishes to obtain the optimal level of health possible for her She is presumably a well person actively engaged in business or in a profession This examination form has been prepared to include not only a record of physical history and physical findings but also the questions which will aid you and the patient in evaluating her design for living which should make for an integrated personality. . . . Your cooperation in obtaining a complete history and giving a careful and complete physical examination will be appreciated."

Page 2 contains a form for recording an exceptionally complete health history; page 3 provides for recording a complete physical examination, including routine pelvic examinations recommended for all women, but states that special tests such as blood counts, roentgenograms, basal metabolic rate determinations, blood chemistry and the like are "recommended as indicated, but not included in routine health examination." The entire blank is to be returned to the patient for her information and subsequent guidance.

This is a well-conceived project which, if carried out locally according to the instruction so well developed by the national body, deserves the widespread cooperation of physicians.

—J.A.M.A.

* National Federation of Business and Professional Women's Clubs, Inc., 1819 Broadway, New York. Single copy, 10 cents.

SO YOU WANT TO WRITE?

Many of us want to, but few of us know how to. Here's a piece of advice Mark Twain once gave to a novice:

"I notice that you use plain, simple language, short words, and brief sentences. That is the way to write English—it is the modern way and the best way. Stick to it; don't let fluff and flowers and verbosity creep in. When you catch an adjective, kill it. No, I don't mean utterly,

but kill most of them—then the rest will be valuable. They weaken when they are close together. They give strength when they are wide apart. An adjective habit, or a wordy, diffuse, flowery habit, once fastened upon a person, is as hard to get rid of as any other vice."

—Talk, published by The National Hospital for Speech Disorders

NONSCHIZOPHRENIC CATATONIC STATES

MORRIS HERMAN, M.D., DOROTHY HARPAM, M.D., and MARCUS ROSENBLUM, M.D.,
New York City

IT HAS not been stressed in the literature that catatonic states occur in conditions other than schizophrenia. Following the work of Kraepelin, catatonia has been included in the group of mental diseases of the schizophrenic type. However, since that time it has been apparent that this grouping has been too rigid. The clinician has recognized numerous cases in which catatonia has been present but in which schizophrenia did not exist. Thus, this catatonic syndrome has been described in cases of general paresis,¹ epidemic encephalitis,² alcoholism,³ head trauma,⁴ hysteria,⁵ diabetes,⁶ mentally defective children,⁷ narcolepsy,⁸ and hypnosis.⁹

Recently, the problem has been elucidated from the experimental angle. Catatonic states were produced in animals by the injection of bulbo-capnine¹⁰ which closely resemble the syndrome of human catatonia. After the administration of a small dose the animals show: (1) catalepsy—the active retention of postures; (2) negativism—passive or active resistance to change of attitudes already assumed; and (3) autonomic phenomena—e.g., polypnea and salivation. After the administration of a large dose the animals present hyperkinesia and abnormal postures.

De Jong and Baruk¹¹ have been able to produce the catatonic syndromes in many different ways—i.e., by administration of a great number of chemical substances, by electric currents, by certain surgical procedures on the brain, and by experimental autointoxication. Their work in the last category is of particular interest. They produced lesions in the spleen, kidneys, testes, liver, and intestine in different animals. They found that there was no catatonic response after extirpation of the spleen, kidneys, or testes. However, they did obtain catatonia in 4 of 12 dogs in which they produced obstruction of the intestines. Also, catatonia developed in 16 of 24 cats surviving after ligation of the hepatic artery. In 2 of 4 dogs in which the function of the liver was partially eliminated by an Eck's fistula, an intermittent catatonia was produced. These authors conclude that experimental catatonia

is a frequent, and not a specific, reaction of the central nervous system and that biologically produced through autointoxication it occurs only following disturbances of the intestines and the liver. Another important observation is that experimental catatonia after the administration of bulbo-capnine does not occur in animals without a neocortex, such as frogs, so that in some way the cerebral cortex is concerned in the mechanism of the production of the catatonia.

Schilder¹² postulates that two factors are important in the production of catatonia—i.e., a cortical factor that produces a lack of impulse and a subcortical factor that produces a simultaneous innervation with minimum essential tone of the agonistic and antagonistic muscle groups.

Von Economo¹³ thought that the subcortical area responsible for catatonia in cases of epidemic encephalitis is the gray matter in the region of transition between the third ventricle and the aqueduct of Sylvius.

An important contribution to the study of catatonia has been effected by the work of Ingram, Barris, and Ranson.¹⁴ They produced lesions in cats in the base of the brain in the region of transition between the forebrain and midbrain by means of the Horsley-Clarke stereotaxic instrument. Their results show that the syndrome does not occur following extensive damage to the central gray matter of the aqueduct and third ventricle. However, catatonia was produced by bilateral damage to extrapyramidal structures in the hypothalamus in the region of the mamillary bodies, such as the posterior hypothalamic nucleus, the supramamillary area, the lateral hypothalamic area, and the region just caudal to the red nucleus. The symptoms produced in these cats have a remarkable resemblance to the catatonia following injection of bulbo-capnine and to clinical catatonia. The cats are described as having a pronounced lack of motor initiative, stolidity, subnormal emotional expression, an increased plasticity of the muscles expressed in the maintenance of odd postures, and a disinclination to eat so that artificial feeding is necessary.

In clinical material the catatonic syndrome presents an almost uniform symptomatologic picture, and the differential diagnosis of differ-

From the Department of Psychiatry, the New York University College of Medicine, and the Psychiatric Division of the Bellevue Hospital.

TABLE 1

Case No.	Discharge Diagnosis	Catalepsy, Cere Flexi-bilitas	Mutism	Negativism	Mannerisms	Sphincter Control	Masked Facies	Response to Induced Pain	Reduced Motor Impulses	Sensorium Intact	Clouded
1	Psychosis with central nervous system syphilis	+	+	0	0	+	+	+	+	0	+
2	General paresis	0	+	0	0	+	+	+	+	0	+
3*	Epileptic clouded state	+	+	0	0	+	+	+	+	0	+
4*	Psychosis due to alcohol	+	+	+	0	0	+	+	0	0	+
5*	General paresis	+	+	+	+	+	+	0	0	0	+
6*	Psychosis due to head injury	+	+	0	0	0	+	0	+	0	+
7	Psychosis due to illuminating gas	+	+	0	0	+	+	0	+	0	+
8†	Psychosis due to aspirin intoxication	0	+	+	+	+	+	0	+	0	+
9	Psychosis due to alcohol	+	+	0	0	+	+	0	+	0	+
10	Epileptic clouded state	+	+	+	0	+	+	0	+	0	+
11	General paresis	+	+	+	+	+	+	0	+	0	+
12	Psychosis due to alcohol	+	+	0	0	+	+	0	+	0	+

* Cases described in text

† We wish to acknowledge our gratitude to Dr. Israel Wechsler, director of the Neurologic Service, Mount Sinai Hospital, for permission to include this case

ent types is difficult. Kahlbaum¹⁵ describes catatonia as a disease picture "in which the patient sits quietly or completely mute and motionless, immovable, with a staring countenance, the eyes fixed on a distant point and apparently completely without volition, without any reaction to sensory impressions, sometimes with a full-fledged cerea flexibilitas, as in catalepsy, sometimes with a slight but definitely appreciable degree of this striking manifestation. The general condition of such a patient gives the impression of a deep mental distress or a fixedness resulting from a severe fright." Such a conglomeration of symptoms is found in schizophrenic mental disorders, as well as in other clinical conditions in which catatonia occurs. In order to demonstrate differential diagnostic criteria, a group of cases has been analyzed and will be presented with this point in view.

It is important to recognize, despite all these organic contributions to the study of catalepsy, that this condition may result from psychologic influences. It has already been pointed out that it occurs in hypnosis and hysteria. Furthermore, it may be produced in animals by rapid immobilization or other strong and unexpected stimuli.¹⁶ It is a common conjuror's trick to induce a cataleptic state in birds by suddenly inverting the creature and placing it on its back.

Table 1 presents 12 cases of which 4 are central nervous system syphilis; 2, epilepsy; 3, psychoses due to alcohol; 1, psychosis due to illuminating gas poisoning; 1, psychosis due to aspirin poisoning; and 1, psychosis due to head trauma.

Certain of these cases (those marked with an asterisk in Table 1) are described in greater detail as follows.

Case Reports

Case 3.—A. P., Austrian, aged 38, was brought to Bellevue Psychiatric Hospital by the police because he had been found wandering about making noise and was unable to give an account of himself. The patient was the only informant and on the fifth hospital day stated that he had suffered epilepsy since the age of 21. Physical findings on admission were remarkable only in that he exhibited waxy flexibility. The mental status for the first three hospital days revealed: intermittent mutism, a blank staring expression, occasional echolalia, and a clouded sensorium. He was discharged to a state hospital somewhat improved on the ninth day, but still revealed sensorial defects.

Case 4.—G. B., American, aged 34, was admitted to Bellevue Psychiatric Hospital because of the sudden onset of noisiness and irrational speech in the course of a prolonged alcoholic bout. He was a night club entertainer. His personality was described by an identical twin brother as selfish, dependent, and unfriendly. He was wont to curse his effeminacy. The only physical finding of positive value on admission was unreactive pupils. On the third day after admission he developed generalized tremors, changing rigidities, and grasping and sucking reflexes. His gestures were catatonic and he often held postures for long periods. The mental status revealed: blank staring, echolalia, perseveration, auditory and visual hallucinations, and a clouded sensorium. He was discharged on the thirty-third day to a state hospital, greatly improved physically but retaining a psychosis of an organic type.

Case 5.—L. F., Italian, aged 41, was admitted to Bellevue Psychiatric Hospital because of personality changes and odd behavior of three years' duration. A painter by trade, he was no longer able to keep a job because he mixed paints wrongly and had become generally incompetent. There was a history of moderate alcoholism. His personality as described by a niece was of the so-called schizoid type.

Physical findings of positive value were: slight irregularity of the pupils, a slight lingual and digital tremor, hyperesthesia, and cerea flexibilitas.

The mental status revealed: blank staring, entire absence of spontaneous speech with frequent and prolonged periods of mutism; occasional echolalia; jaw negativism, and sensorium which at the onset could not be adequately evaluated but which on subsequent examinations proved to be clouded.

Blood and spinal fluid serology revealed a 4-plus Wassermann and the spinal fluid colloidal gold curve was of the paretic type.

He was discharged, unimproved, to a state hospital on the sixteenth day.

*Case 6.**—J. T., white, aged 46, was admitted to the neurologic ward of Bellevue Hospital because he was in a clouded uncommunicative state. There was a history of his having been found in the street three days prior in a semicomatose state with evidence of head injury. The only physical finding of positive value was a right hemiparesis. The spinal fluid was pink, and a roentgenogram of the skull revealed a linear fracture of the vault. In the hospital he developed marked cerea flexibilitas and loss of sphincter control.

The mental status revealed a clouded sensorium. This condition deepened with the onset of drowsiness some days later. On the twelfth hospital day a large subdural hematoma was removed on the left side. The patient recovered with a residual of hemiparesis and was discharged to go home on the thirtieth day.

Comment

The catatonic symptoms in all the types of cases are identical with those found in schizophrenia. However, an examination of the sensorium shows that in these cases of organic brain disease there is a state of organic confusion—i.e., there is profound disorientation and marked cloudiness of the state of consciousness. This is not found in cases of catatonic schizophrenia. It is often difficult to probe the sensorium where there is mutism and marked negativism. Frequently, the catatonic symptoms are intermittent and subside sufficiently to allow temporary communicability. In more stubborn cases special methods

may be necessary. A mute catatonic patient may be persuaded to communicate by means of writing. This graphic method has been utilized even therapeutically.¹⁷ Contact may be obtained by the inhalation of a mixture of CO₂ and O₂¹⁸ and also by the intravenous injection of sodium amytal.¹⁹ These chemical agents act by removing the catatonic phenomena.

An analysis of our cases and those reported in the literature suggests that we can group them into three categories:

1. Cases in which cortical damage is predominant. In these we find catatonic symptoms accompanying a state of mental confusion of the organic type. This occurs in cases of general paresis, alcoholic encephalopathies, head trauma, carbon monoxide poisoning, acetylsalicylic acid poisoning, and in post-convulsive states.

2. Cases in which psychologic factors appear to be predominant, acting in certain constitutional types. Here, the catatonic symptoms are present without a state of organic mental confusion. This type is found in schizophrenia, certain hysterical states, and hypnosis.

3. Cases in which damage to the hypothalamus is predominant. Here, the catatonic symptoms are present with a clear sensorium but commonly associated with disorder of the sleep mechanism. This type is found in epidemic encephalitis and the narcolepsies.

Theoretically and by experimental results, one can hypothesize that catatonia is a neurologic phenomenon, the mechanism for which resides in the posterior part of the hypothalamus. It seems also that the neocortex has a controlling influence over this mechanism. This cortical influence is disturbed by the overwhelming toxic factors of organic cortical brain disease and also by psychologic influences. Certainly psychologic factors are important in the production of the catatonic state in hypnosis and certain conversion hysterias. However, the relative importance of psychologic factors in the production of catatonia in schizophrenia is not yet established. The cerebral control may also be disturbed by disease of the hypothalamic region—i.e., by cutting off the lower centers from cortical influences.

Summary

1. The experimental studies on catatonia have been reviewed.

2. Cases of catatonia in nonschizophrenic subjects are analyzed.

* We wish to express our gratitude to Dr. Foster Kennedy, director of the Neurologic Service, Bellevue Hospital, for permission to quote this case.

3. The catatonic symptoms are identical with those found in schizophrenia.

4. The clouded sensorium found in organic brain disease differentiates the catatonia of these cases from that of schizophrenia.

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DO YOU KNOW WHAT "BEDLAM" MEANS?

Doctor Jones says, in *Health News*: "My mother, when I was a boy, when a bunch of us got to making a terrible commotion, she'd come in: 'What's all this bedlam about?' she says. Or maybe she'd say we sounded like a 'mad-house' So I figured they meant about the same thing. But, you know, I've just discovered it was originally Bethlehem: the Bethlehem Royal Hospital for lunatics, as they used to call 'em. That was way back in the fifteenth century, in London. It was a pretty tough place, I guess. I was reading they even let people in for an admission fee to see the inmates. If they didn't perform to suit 'em they'd poke 'em with sticks. Today you'd probably get pinched if you tried to do that to wild animals in the zoo.

"What started me on this: I was just reading a lecture Dr. Hutchings gave in this 'March of Medicine' series. 'The Ascent from Bedlam'—that's the title of it. He was superintendent for years of the Utica State Hospital. He's one of the old-timers in the mental business that's kept up on what they call the new psychiatry: preventive measures, psychoanalysis, and all that.

"It's a remarkable story—this lecture is, of the gradual change in ideas and methods from the old days when people with mental disturbances—they used to light fires under 'em and all that stuff to drive out the demons. Of course old

Hippocrates, way back there B.C., he said it was disease and not devils. But that idea was too newfangled to make much impression. In fact way along in the seventeenth century casting out devils was a thriving business. One bunch of church folks reported that they'd cast out 12,652 of 'em.

"Back in those days they weren't patients and they weren't treated. They were just mistreated. But in Paris, in 1792, they put a fellow by the name of Pinel in charge of an asylum there: a place about like old 'Bedlam.' He had some ideas of his own, Pinel did. He unchained the inmates, gave 'em beds to sleep in and something to occupy their time, like working in the garden and so on, and some of 'em improved. Most of the people around there were busy putting on the French Revolution; otherwise I s'pose Pinel'd have lost his job. Something more or less the same was going on in England. That was really the beginning of giving 'em decent care—these mental cases.

"What Dr. Hutchings calls the 'new psychiatry' began to take hold along about 1909. It got its start, he says, from the 'epoch-making studies' of Dr. Freud. Now they not only treat 'em scientifically and cure a lot of 'em but they aim to prevent these troubles. Well—time's marching on, too. We'll have to finish this some other time."—Paul B. Brooks, M.D.

A NUTRITIONAL MOVIE

"Hidden Hunger," a two-reel picture made as a part of the National Nutrition Program and presented by the Federal Security Agency, brings to the screen in an entertaining and understandable manner the newer knowledge of nutrition. It points up waste of food through improper cooking and waste of money through improper buying.

It shows and tells the minimum essential foods a man should eat every day for maximum health: 1 egg, 1 pint of milk, two vegetables (green, leafy, or yellow), and a potato; an orange or tomato juice and another fruit; three or more slices of the right kind of bread (whole wheat or enriched white); two tablespoons of butter or margarine; and meat.

Special Article

A CONSIDERATION OF THE HANDICAPPED—PARTICULARLY THE BLIND MASSEUR

DAVID R. SALMON, New York City

EDUCATORS, industrialists, and other groups conferring in a spirit of sympathy on the problems of the industrial rehabilitation of the handicapped will find their well-intentioned gatherings unproductive unless a definite, constructive plan is drawn up wherein the rehabilitation processes lead toward assured jobs in industry. This calls not only for industrial job surveys by these groups but also for an intensive publicity campaign to overcome unwarranted public prejudice against employment of the handicapped. It cannot be overemphasized—vocational rehabilitation of the handicapped entails a rightabout-face by the public in its general acceptance of handicapped labor.

Well-directed publicity is of particular value now while each man's contribution toward national security is most urgently needed. It may be safely said that more can be done in one war year to aid the handicapped as economic producers than in several peaceful decades. Our government should not miss this opportunity to set these people to work and to educate the public as to their capabilities. It is also worth contemplating whether or not special government consideration should be given to those industries employing a certain percentage of the handicapped.

While the blind masseurs are not in need of vocational rehabilitation, they are a handicapped group in need of jobs. By giving this group cooperative support the medical profession can serve as an example for other groups to do likewise.

There are approximately twenty-five competent blind masseurs licensed by the City of New York. They have all had hospital or private patient experience or both. Eighteen of their number are chartered as the National Association of Blind Masseurs with headquarters at The Lighthouse, 111 East 59th Street, New York City. While they are not physical therapists, they have been trained to use electrotherapy under sighted supervision. The development of a sensitive touch sense, the ability for full concentration

free from the distractions of the seeing world, plus the other qualities of physical fitness, education, and personality which are necessary in the capable masseur make the majority of this group highly employable.

The blind masseur encounters difficulties because of the inability of the layman to separate special capabilities from the idea of handicap in general. The medical profession in England, through its cooperative support, is largely responsible for revealing the skill of the blind masseur to the public, and a livelihood in his chosen field has thus been opened to him.

In considering how the medical profession may aid blind masseurs in this country, it is well to consider further what the English have done. Before entrance is granted to the Eichholtz Institute of Massage and Physiotherapy for the Blind in London, the prospective blind masseur is required to furnish a consensus from at least six medical men in the district in which he hopes to practice that there is scope for the masseur in the locality and a promise that they will consider helping him by sending him patients. Further, he is asked to produce some indication from the local authority of his area that it will use its influence to secure for him a hospital appointment.

In England, blind masseurs may not advertise, but in this connection the Association for Certificated Blind Masseurs, which corresponds to our National Association of Blind Masseurs, is able to undertake suitable forms of advertising and to arrange for general publicity so as to keep the work of the blind masseur constantly before the medical profession and the general public. The Association has strong medical backing, and advertisements are inserted in medical and lay papers describing the qualifications of its members.

The American medical profession can aid the blind masseur by similar cooperative support when he is certified. Means of advertising can be provided through medical papers, and the example can be set for lay papers to follow suit. Recognition of the merits of the blind masseur can be extended by inquiring at the New York Association for the Blind for the names of one or two members

Vocational Guidance and Placement Counselor, The New York Association for the Blind and the New York Institute for the Education of the Blind.

of the National Association of Blind Masseurs to be used as alternates on physicians' lists.

Sightless masseurs, accepting the realities of their present position, are willing to receive a fee smaller than that generally accepted by

sighted masseurs. They have faith in their abilities and believe that in time they will come into recognition.

Now is the time to consider how we may improve the lot of the handicapped in general. Here is an opportunity to aid a specific group.

VICTORY AND LASTING PEACE DEPEND ON CIVILIAN UNITY

"Two war phrases, 'unified command' and 'grand strategy,' are being heard with increasing frequency. Use of them obviously is made in connection with military action. But they must now be extended to include civilian action. That has a special significance to the army of Bundles for Britain volunteers throughout the country.

"Britain cannot win the war alone; we cannot win it alone. Each nation has promised the other full support, and for that full support each nation's army and navy are undertaking operations under unified agreement, according to grand strategy. But the armies and navies cannot do the entire job. The civilian populations have a job of their own, to help take care of themselves. The civilian populations of America and England are factually one, a great unified group of people, working for a common protection and common aid.

"At this time, America fortunately is not in the dire need in which England stands. We still have enough for ourselves to be able to help her, and keep on helping. Yet we shall not be helping a country called England as much as a land which in this emergency has become our alter ego, our other self.

"Therefore one can say to the men and women of the American home: 'You are strong, you are able, you are kind, so give your strength, your ability, and your kindness, not only to those within your own land, but also to those outside, without whose collaboration your ramparts can-

not stand.' This is not sentiment or emotionalism. It is the soundest policy for winning the war, because it is the application to civilian life of the theory of unified command and grand strategy.

"It is also well to remember that we committed ourselves to a job which must continue. Bundles for Britain and other war relief agencies were founded to help the people of a country in distress. Those people are still in distress. To decrease our efforts in their behalf now that we face having our own distress, would be as if we said: 'Now that we are hit, we cannot think of you.' This would be in contradiction to the concept of unified command and grand strategy which the leaders of our two countries are so trying to perfect. So we must continue wholeheartedly and untiringly the efforts to help Britain's stricken civilians. In that way we say to them: 'Even though we are hit, we still think of you.' If we were in England's plight and England in ours, we would cherish such a spirit toward us from Britain. It is for us to establish a precedent for the behavior of people of all nations in the future.

"This is war, but also war for a peace, and that peace will be strong and lasting in proportion to the ability of people to work together for a common good. Ultimately this will be the basis of the contribution the United States and Great Britain will make to the future.—Raymond Gram Swing, in *The Lion Rampant*

DOCTORS' ORCHESTRA SOCIETY IN NEW YORK CITY PREPARING FOR CONCERTS

The Doctors' Orchestra consists now of 60 physicians and dentists who are playing members of the orchestra. Professional musicians have been almost completely eliminated. The orchestra is at present preparing for two concerts: for the State Medical Convention to be held at the Waldorf-Astoria on April 28 and for their fourth annual concert to be held at Town Hall on May 8.

The program for the above consists of the Schubert unfinished, and the Beethoven second symphonies, Weber's *Euryanthe* overture, the Tschaiakowsky *Marche Slave*, together with a modern composition, and other smaller compositions.

The orchestra has been practicing throughout

the past year and has held weekly rehearsals at the Hospital for Speech Disorders, through the courtesy of Dr. James Sonnett Greene, director of the hospital. Under the tutelage of the conductor, Mr. Fritz Mahler, remarkable progress has been made and through the efforts of the new president, Dr. William Spielberg, the orchestra has assumed proportions very near to those of a professional symphony orchestra.

Tickets for the fourth annual concert on May 8 are now for sale and may be obtained from the chairman of the concert committee, Dr. Alexander Sved, Regent 4-8390, 654 Madison Avenue, New York City and from the president, Dr. William Spielberg, 235 East 22nd Street, New York City, Stuyvesant 9-4402.

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Annual Reports

Medical Society of the State of New York

1941-1942

Report of the President

To the House of Delegates; Gentlemen:

PART I

This has been an unusual year of service. It is with great satisfaction that I am able to report to you that there has been an unusual spirit of mutual helpfulness and devotion in every committee, every county society, and among all the members of the Council in studying problems that have arisen because of the confused situation in the country while it is translating its energies from peacetime activities to alignment in support of our government's war effort.

This is no time in which to indulge in trite pomposities of phrase. The time for talk, and for discussions and arguments, is past. We must face facts. I shall, therefore, first briefly allude to our intramural activities, and, then in a second part, outline the shape which trends in medicine seem definitely to be taking under the stress of war.

In passing, I want to acknowledge the hospitality of the district branch societies, all of which I was privileged to visit during the year at the time of their annual meetings. These meetings were well organized and well attended and were fruitful both in scientific presentations and in discussions of medical import for the public welfare. The fine work in connection with these meetings which Dr. Joseph Lawrence does needs special mention. I refer you for details to the district branch presidential reports.

The Council of the Society will present a report of its activities, together with recommendations. These have been fully considered and merit your favorable attention.

I would be remiss in appreciation did I not remark on the business-like celerity of procedure and the fine way in which the subcommittees function under the chairman-leadership of one or another of the Councilmen. The pains of "new growth," the frictions, and the controversial cross currents of desires and ideas were totally absent this year. The Council has "found itself." The fine unanimity of opinion sought as the achievable goal on each proposition deserves remark. By invitation the Council opened its floor and discussions to any members of the Board of Trustees who desired to avail themselves of the opportunity, so that the Trustees might know the background and the reason for such recommendations as the Council desired to transmit to the Board.

Comment on my part is hardly needed on details of committee reports which will come before you. Suffice it to call your attention to the expanded program of postgraduate medical education. Lecture hours have expanded to teaching

days. This expanded program, stressing as it does industrial and war medicine and surgery, is peculiarly appropriate in these times. In addition there has been set up a Conference Committee to work with official agencies in a praiseworthy further effort to eradicate tuberculosis from our population.

Medical Relief is being continued in cooperation with the State Department of Social Welfare, to the end that the best available care shall be given to both the indigent and the near-indigent.

The relations of the Society to the various departments of the state government, of which you will have report, is exceedingly fine. There is cooperation and mutual good will, with the result that commonly sought goals are achieved. The appreciation of the Society is hereby expressed to the State Departments of Health, Education, Motor Vehicles, and to the Board of Regents. The Committee on Public Relations and Economics, and its manner of approach and its diplomatic handling of pertinent problems, deserves an accolade of praise.

The Legislative Committee has been commendably vigilant and vigorous. At this writing I am unaware of the final outcome of some of the pending legislation. The cooperative action of the committees on legislation of our component county societies is gratefully acknowledged.

There has been progress in our study of the developing programs of Medical Expense Insurance. The further development of these plans to overcome the financial handicaps preventing prompt medical and hospital service to those whom catastrophic illness strikes meets two threats: on the one hand, the government's proposition to give medical and hospital care to its social security clients, and, on the other, the efforts of the Goldwater group to break down the legal separation of medical from hospital care. I much fear that all our voluntary medical expense insurance plans will pass from the picture if the federal government's social security program, for giving its thirty-five million clients and their dependents both hospital and medical care, is put into effect. The discussions in which we have engaged as to the form and type of our voluntary plans will soon have only an academic value, because these voluntary plans will die if placed in competition with the government-sponsored plan. Need I add that the proposed new social security extension, with its necessary additional deductions from the worker's pay envelope, should be examined and thoughtfully studied by organized labor as well as organized medicine? The least that can be asked is a stay

for intelligent study by both of these groups vitally interested in the question.

The Workmen's Compensation Bureau, under its energetic chairman, is continuing to perform a valuable service to both the profession and the public. Dr. Kaliski's report merits your considered favorable action.

Publicity may be touched upon in its three branches—the *Directory*, our *JOURNAL*, and the other forms of publicity emanating from the Committee on Medical Publicity and its erudite director of public relations, Mr. Dwight Anderson. In all the branches of publicity a high level of excellence has been maintained. Wise business management has effected arrangements which have kept cost levels to no higher than before, notwithstanding the rise in prices of paper. This is true of both *JOURNAL* and *Directory*.

In passing, I must note for your satisfaction the strides which the prestige of the *JOURNAL* has made. Its literary contents, its editorials from the able pen of Dr. Laurance Redway, its dignity in expressing the adopted policies of the Society, are gratifying. In the uphill struggle to attain a place commensurate with the dignity and prestige of the Society whose views it represents, its steady progress in increasing reader interest, its better scientific articles, all bespeak steady growth and widening influence.

Finances.—There has been no more sincere worker in our midst than Dr. Edward Wentworth, chairman of the Council's Finance Committee. Here I would only add one suggestion for general consideration. I refer to the policy of remitting the dues of members who are called to the colors in our armed forces. The idea has my sincere approval, but I would suggest a modification of its application. I would restrict this to those physicians to whom, while in the service of their country with the armed forces, the payment of dues constitutes a burden and hardship, and limit it to those that ask for it. I needs must recommend this because, as I contemplate the expanding activities of the Society on the one hand, and the shrinking income from dues on the other (because many of our members will soon be with the colors), I realize that something must be done to balance matters. If we are not greatly to curtail our activities "for the duration," we shall either have to continue to receive as much money for dues as possible, or begin to live and go on functioning with money taken from our capital—our invested funds.

I shall report separately on the affairs of the Committee on Medical Preparedness.

Office Management.—This has greatly improved. In the heavy work as president in these particular times, it became necessary for me to visit the Society's offices almost daily. The splendid esprit de corps, of the staff, the devoted help tendered by the general manager, Dr. Peter Irving, and the many extremely courteous services rendered by everyone at the Society's headquarters, make up the one single factor which has made possible the smooth functioning of the interrelated committees. Furthermore, excellent relationships were established with army officials, the Mailer Commission, and other New York state agencies. All this brought about mutual good will and co-operation. Recently two new agencies have been largely serviced, as far as the state's doctors

are concerned, by the office, namely, the New York State Procurement and Assignment Service, and also the necessary contacts with the New York regional office of the Social Security Board. I report without mental reservation that without this freely volunteered help, and these cheerfully performed services, what success I may have attained would have been impossible.

PART II

Trends in Medical Affairs.—The war situation inherently means a temporary curtailment of the very liberty we are attempting to preserve. I readily concede that this is necessary where military exigencies require it. The government has both a moral and a legal right to take any and all measures which it deems to be necessary for its own survival and preservation.

There are those who believe that it is perfectly obvious that what is going on today has many elements of a social revolution, and they would improve social conditions generally under democratic institutions to meet the contingencies inherent in this social revolution. This school of thought proposes a profound revolution in our thinking in regard to medical care. What are we doing about it?

Without discussing the question of social revolutions while the war effort is getting under way, there are factors in the situation which I desire to bring to your attention.

The proposed federal plan which, for want of a better name, I shall call the "hospitalization tax program," I would have you study, with its wide implications. Under this plan many millions of workers and their dependents who are or who may become beneficiaries of old-age and survivors' insurance systems would have their hospital bills paid by federal funds. There is, furthermore, the implication that social security is to be extended, to the end that people permanently disabled before the age of 65 will be entitled to receive federal benefits. The determination of the disabilities will require medical examiners. Finally, the medical care of many of these people will become a public issue.

There arises the question of payments to workers during temporary disability. This requires medical certification at both the beginning and the end of each illness. For the treatment of the sick worker, a paid doctor would be necessary.

We must prepare studies as to methods of procedure for the handling of the medical care under these plans if, and when, they come into operation. But aside from the determination of procedure, here is a distinct trend toward a *system of state medicine*. In this connection I am not concerned with any details; I am concerned today only with the idea that the organized profession should recognize the trend and comprehend toward what we are drifting, and should prepare adequately for the part it democratically determines will be its attitude and role with respect to the propositions.

The second straw in the wind to which I call your attention is the federal rehabilitation program, which is at present undergoing tests in Maryland and Virginia to accumulate experience. This constitutes a program designed to have the federal government undertake the rehabilitation of rejected registrants coming under control of

the national Selective Service Law. The entire procedures contemplated are given in full in the *J.A.M.A.*, Vol. 118, No. 5 (January 31, 1942), page 382.

The respective state directors, through the channel of the local selective service boards, will enrol the physicians and the dentists and also the hospital facilities to do this rehabilitation work. The physicians, dentists, and hospitals will be paid at rates to be established on a fee schedule which is soon to be published. What part organized medicine played in developing this fee schedule—whether it takes into account the difference in medical costs in the metropolitan areas as contrasted with rural and industrial areas—I have been unable to learn. Meanwhile there is accumulating a national roster of physicians, who fill out very detailed blanks about themselves and enrol to do this work.

Having determined our stand in regard to these trends, the inexorable logic of events will either justify us or confute us. Let us not be bound to harmful policies, whatever the instant popular reaction to them may be. I deem it my duty to call them to your attention, for such action or instruction to your delegates to the American Medical Association as you may determine.

In these fast-moving times, we cannot be too watchful. I believe that everyone who thinks of the train of events which culminated in the war we are waging must realize that we are not only fighting a war, but also witnessing a social change. This you may call social revolution if you wish. I hold this to be true all over the

world. It is distinctly evident in England—to cite a people most nearly akin to us. This being so, it follows that in the social upheavals there are abundant dubious virtues. For the comprehension of these so-called virtues, intelligent interpretations are exceedingly necessary. We must accept one fundamental fact: an epoch has passed, and a new one is upon us. We may have a heartfelt nostalgia for the past epoch, in which medicine played its noble role, and contributed so richly to American life. As we note the present trends, however, we can observe the inevitable parallels which movements and currents in public affairs require that we comprehend. The earlier we understand them, and guide them, the better will organized medicine be served. Perhaps, too, we may be enabled to play a part in protecting the public welfare from the over-enthusiastic protagonists of trends which, in the long-range view, are not in the interest of either the medical profession, labor, or the public generally.

In conclusion, let me express my thanks for the cordial cooperation and enthusiastic support I have enjoyed at the hands of every official and many of the individual members of the Society.

In the year which has passed, I have been indeed highly privileged to serve during exciting times when history has been in the making. I have learned much by the experience.

I am deeply grateful both for the honor of having served, and for your confidence which I have enjoyed.

SAMUEL J. KOPETZKY, M.D., *President*
March 9, 1942

Report of the Secretary

To the House of Delegates; Gentlemen:

Since your last meeting on April 28 and 29, 1941, the administrative year has seen an expansion of the regular activities and the addition of new work. The headquarters office has met all ails. The coordination of activities has gone ahead smoothly.

Membership.—Elected in 1941 were 856 new members; 210 were reinstated. The net increase for the year, as shown below, was 372.

Membership—December 31, 1940.....	17,409	
New Members—1941.....	856	
Reinstated Members—1941.....	210	18,475
Deaths.....	198	
Resignations.....	144	
Licenses Revoked.....	3	345
		18,130
..... of 41		349
Total Membership, December 31, 1941.....		17,781

Honor counties (none of whose members failed of their dues in 1941) include Chemung, Columbia, Cortland, Essex, Fulton, Livingston, Montgomery, Onondaga, Schoharie, Schuyler, Seneca, Tioga, Tompkins, Warren, and Wyoming.

New York Office.—The revisions in system initiated last year and reported to you

then were in due course completed; and all procedures have been working efficiently in the new way. Thus, production of the *JOURNAL* and the 1941-1942 *Directory* has been facilitated and at the same time the increasing calls on the office for assistance in the field of medical preparedness have been met.

It has been of much help in office management to have the counsel of the special Committee on Office Administration and Policies, which you set up in 1940 and continued in 1941, to operate under supervision of the Council. This committee has met regularly. Because of its constitution with managing officials, general and special, the *JOURNAL* literary editor, the treasurer and a trustee, it has been in a position to fit varying needs of the office together in effective fashion.

Mr. Anderson, in his capacity as business manager of the *JOURNAL* and *Directory* and of Technical Exhibits for the Annual Meeting, has done yeoman service that has resulted in financial improvements in all three fields.

Coordination of Activities.—The Council with the help of its committees has fulfilled its duties during the year in brisk and effectual fashion and without duplication of effort.

It has been found wise to make some slight changes in the Council committee mechanism in such a way as to cover certain expansion in effort. A Joint Committee on Dental Health of the

Medical and Dental State Societies was set up. The Subcommittee on Maternal Welfare was reconstituted as the Subcommittee on Maternal and Child Welfare, with the same personnel but the addition of a pediatrician. Regional Chairmen in Pediatrics were appointed to parallel the Regional Chairmen in Obstetrics. A new Subcommittee on Industrial Health was created to study the problems resulting from the needs of wartime production that might call for additional postgraduate education courses in Industrial Medicine. Another new subcommittee has been recently appointed on War Medicine and Surgery, also to operate under the chairman of the Committee on Public Health and Education.

A new Council Committee on Hospitals has been set up to contact hospitals and the hospital associations.

The Committee on Scientific Assembly was recast as the Committee on Convention, with the subcommittees as before: on Scientific Program, Scientific Exhibits, and Arrangements. In this way it has been possible to pivot the different functions around the general manager.

The Committee on the Deaf and Hard of Hearing has been enlarged to five by the addition of four otolaryngologists.

At the instance of the Council, the president, Dr. Kopetzky, was drafted to succeed himself as the chairman of the Committee on Medical Preparedness, thus continuing the committee with the same personnel.

The work of this committee has increased and the office force has been continually at work. The job of finding examiners for the draft boards diminished, but a call of large proportions began in the winter of 1941 for civilian contract physicians to aid the Army Pre-Induction Teams operating in the state under the Surgeon of the Second Corps Area. This call has been met, again with the painstaking assistance of the county society committees.

Just recently, Dr. Arthur W. Booth, of Imitra, has been appointed under the Procurement and Assignment Service in Washington as chairman for the Second Corps Area, and under him Dr. Kopetzky has been delegated chairman for the State of New York.

Thus, another call has come to the State Society and to the county societies: for information that will help the Procurement and Assignment Service to decide which physicians are available for service in the Medical Corps of the Army and Navy (and other federal agencies) and which physicians are needed in their communities for civilian work.

It is with deep satisfaction that your general manager welcomes this opportunity for himself and for the office force to aid this important service.

Our two departments, the Bureau of Public Relations and the Workmen's Compensation Bureau, have been steadily at work in an effectual fashion, as always.

Mr. Anderson completed the radio program authorized by you last year and has effected in the same expert manner the other desirable medical publicity as shown in the Council report. Dr. Kaliski has continued his painstaking work in the interest of the physicians working under the compensation laws.

Your secretary again wishes to express his high commendation of the work of the Committees and the Bureaus, and his great pleasure in the many contacts in the course of the work.

In closing this report, I wish to take the occasion to extend my sincere thanks to the members of the general staff working under the able guidance of Miss Dougherty. Their work has been loyal, devoted, and unfailing.

Respectfully submitted,

PETER IRVING, M.D., *Secretary*

March 9, 1942

Report of the Council

To the House of Delegates; Gentlemen:

Your Council has the honor to report on its executive and administrative management of the affairs of the Society during the period following your last meeting on April 28-May 1, 1941. The various matters before it are here presented in successive parts.

PART I

Postgraduate Education

In accordance with the expressed desire of the House of Delegates of 1941, the Council has approved the further expansion of the postgraduate teaching work open to members of the Society. The same Committee has carried out the work as follows:

Oliver W. H. Mitchell, M.D.,

Chairman.....Syracuse
George Baehr, M.D.....New York
Charles Dayton Post, M.D.....Syracuse

Necessarily, the program of the year has called for more expenditure of the Society's funds, but this had had the approval both of the Council and the Board of Trustees. The following report

from the Committee summarizes the work of the year that has been done and is to come, with the approval of the Council.

REPORT

On June 11, 1941, the Chairman of the Council Committee on Public Health and Education called a meeting of the Committee with representatives of the State Departments of Health and Labor to discuss plans for postgraduate education for the coming year. Special consideration was given chemotherapy, cancer, dental health, industrial health, and rheumatic fever.

Following this meeting, all of the physicians who had arranged courses in previous years were sent letters asking their continued cooperation and suggesting the revision of some courses, in view of changes in speakers and the addition of the following subjects: chemotherapy, cancer, dental health, industrial health, and rheumatic fever. Meanwhile, letters to the presidents of the county medical societies described the proposed expansion of the work and the type of courses to be offered and requested that county

medical societies notify the Committee as soon as possible, specifying choice of subjects and dates. Twenty-one requests for information were received before the *Course Outline Book* was ready for distribution, and since that time twenty-one additional requests have been received.

During the summer months the Committee held several meetings in New York City for the discussion of routine matters and for special consideration of chemotherapy, dental health, industrial health, and rheumatic fever. All of these subcommittees initiated a considerable number of activities. At a meeting of the Study Committee on Industrial Health plans were discussed to determine the need and type of instruction which should be made available to physicians of the state. No formal course for any special area was prepared but instruction was made available on many subjects upon request and it was decided that an announcement of such a nature be included in the *Course Outline Book*. A meeting of the Joint Committee on Dental Health was held to discuss final plans for the instruction to be offered. Conferences were held in Albany with representatives of the State Health Department to prepare the program and arrange for instruction in chemotherapy and rheumatic fever. Announcements regarding these programs were prepared and included in the *Course Outline Book*. A conference was held in New York City with Dr. John J. Bourke, research director, New York State Health Preparedness Commission. The New York State program for civilian defense was discussed with Dr. George Baehr and Dr. H. van Zile Hyde of the Office of Civilian Defense. An announcement regarding the latter activities was prepared and appears in the *Course Outline Book*. Upon completion of these special announcements, the *Course Outline Book* was published and sent to county medical societies in the state, the State Commissioner of Health, division directors, officers of the State Medical Society, and members of the Committee on Public Health and Education, including the subcommittees.

This office has made arrangements for postgraduate instruction in twenty-seven county medical societies. The following is a list of the counties which have had, or will have, postgraduate instruction this year, with the subjects and number of the lectures.

County	Instruction	No. Lectures
Cayuga	Traumatic Surgery	7
	Public Health	1
Chemung	Pediatrics	1
Cortland	General Medicine	5
Columbia	General Medicine	7
Dutchess	Rheumatic Fever	1
Delaware } jointly	Rheumatic Fever	1
Otsego }	Obstetrics	2
	Cancer	1
	Traumatic Surgery	3
Franklin	Sulfonamide Therapy	6
Fulton	General Medicine	6
Jefferson	Sulfonamide Therapy	6
	General Medicine	5
Madison	Sulfonamide Therapy	7
	General Medicine	3

Monroe	Surgery	1
	General Medicine	1
	Medicine	1
	Nutrition	1
	War Medicine and Surgery	1
Montgomery	Dermatology	7
Nassau	General Medicine	4
	Pediatrics	4
Oneida	Sulfonamide Therapy	6
Onondaga	Sulfonamide Therapy	6
	War Medicine and Surgery	1
Orange	Sulfonamide Therapy	6
Oswego	General Medicine	5
Queens	Allergy	4
Rockland	General Medicine	6
St. Lawrence	Sulfonamide Therapy	7
Schoharie	General Medicine	6
Steuben	Traumatic Surgery	7
Sullivan	Pediatrics	7
Tioga	General Medicine	5
Washington	Rheumatic Fever	1
Westchester	General Medicine	5

Public health matters receiving particular emphasis from the State Department of Health and the State Medical Society this year have been cancer, obstetrics, pediatrics, rheumatic fever, syphilis, sulfonamide therapy, industrial health, and nutrition. The work of the Committee in these fields has, to a large extent, been in postgraduate instruction, and of the counties listed above the following have had instruction in one or more of these subjects, a share of the cost being borne by the State Department of Health:

County	Instruction	No. Lectures
Chemung	Pediatrics	1
	Syphilis	1
Columbia	Rheumatic Fever	1
Dutchess	Rheumatic Fever	1
Delaware } jointly	Cancer	1
Otsego }	Obstetrics	2
	Rheumatic Fever	1
Franklin	Sulfonamide Therapy	6
Fulton	Sulfonamide Therapy	1
Jefferson	Sulfonamide Therapy	6
Madison	Sulfonamide Therapy	7
Monroe	Nutrition	1
Montgomery	Cancer	1
	Syphilis	1
Nassau	Rheumatic Fever	1
	Pediatrics	4
Oneida	Sulfonamide Therapy	6
Onondaga	Sulfonamide Therapy	6
Orange	Sulfonamide Therapy	6
Oswego	Rheumatic Fever	1
Rockland	Sulfonamide Therapy	1
	Syphilis	1
St. Lawrence	Sulfonamide Therapy	6
Schoharie	Sulfonamide Therapy	1
Sullivan	Pediatrics	7
Washington	Rheumatic Fever	1
Westchester	Rheumatic Fever	1

The following is a list of regions which have had Teaching Days on Maternal and Child Welfare:

Region No. 12—Erie, Niagara, Chautauqua, Genesee, and Wyoming county medical societies at Buffalo on Thursday, October 16, 1941.

Region No. 4—Schenectady, Fulton, Montgomery, Schoharie, Greene, and Ulster county

medical societies at Schenectady on Thursday, November 13, 1941.

Region No. 2—Suffolk and Nassau county medical societies at Nassau Hospital, Mineola, New York, on Thursday, November 13, 1941.

Region No. 11—Allegany, Steuben, Schuyler, Tompkins, and Chemung county medical societies at Elmira on Wednesday, December 10, 1941.

Region No. 12—Erie, Niagara, Cattaraugus, Genesee, and Wyoming county medical societies at Buffalo. This meeting was devoted to a report of a six-year study of the Maternal Welfare Committee of the Medical Society of the County of Erie, held December 17, 1941.

At present arrangements are being made for two Regional Maternal and Child Welfare Teaching Days, one to be held in Albany on April 15, 1942, and one in Rochester on April 1, 1942.

For these Teaching Days, the Committee assisted in arranging for speakers, sent programs to members of the county medical societies, medical schools, hospitals, the NEW YORK STATE JOURNAL OF MEDICINE, the *Journal of the American Medical Association*. The Committee paid the expenses of the speakers coming from outside the regions and the State Department of Health provided honoraria for six speakers participating in these programs.

In addition to this work, a statewide Teaching Day on Cancer was held at Syracuse University College of Medicine, Syracuse, on January 17, 1942, in cooperation with the Tumor Clinic Association of the State of New York and the Division of Cancer Control of the State Department of Health. As its contribution to this Teaching Day, the Committee arranged the publicity, sending notices to all hospitals and medical schools in the state, the *American Journal of Roentgenology*, *Radiology Journal of North America*, *Journal of the American Medical Association*, *Health News*, the NEW YORK STATE JOURNAL OF MEDICINE, and the local press.

The Committee assisted in the arrangements for the first Teaching Day to be held in Industrial Health. This meeting was held in Buffalo on Thursday, February 26, 1942. Notices were sent to the memberships of the following county medical societies: Erie, Niagara, Genesee, Wyoming, Cattaraugus, Chautauqua, and Orleans. Notices were sent to the hospitals and medical schools in the region, and also to the *Journal of the American Medical Association* and the NEW YORK STATE JOURNAL OF MEDICINE. It was regarded as a very successful meeting.

Also, the Committee assisted in the arrangements for the three-day Postgraduate Institute held in Rochester under the auspices of the University of Rochester School of Medicine and Dentistry and the Medical Society of the County of Monroe with the cooperation of the Medical Society of the State of New York. Every attempt was made to cover as wide and as varied a field as possible so that every practitioner of medicine would find something of interest and value.

As a part of the newly inaugurated program on War Medicine and Surgery, the Committee arranged for Dr. Foster Kennedy, professor of clinical neurology, Cornell University, to speak on "Nervous Conditions Associated with War-

fare" at a meeting of the Monroe County Medical Society in Rochester on March 17; Dr. Henry H. Ritter, professor of clinical surgery, New York Postgraduate Medical School, Columbia University, spoke before a meeting of the Onondaga County Medical Society in Syracuse on Tuesday, March 3. The topic of Dr. Ritter's lecture was "Fractures in General—Treatment of Common Fractures."

PART II

Public Health Activities

Certain matters that involve in one way or another the health of the public have been considered by your Council. These have been chiefly in the domain of the Committee on Public Health and Education, but frequently the Committee on Public Relations and Economics and the subcommittees of both have been directed to take part in the studies and in actions based thereon.

Chemotherapy Program.—Preceding the announcement of instruction to be offered in sulfonamide therapy and the speakers available, a two-day conference was held in Albany on October 7 and 8, 1941. Many of the leading authorities in this field addressed this group. An outline was prepared from these presentations to be used by the lecturers who addressed the county medical society meetings and hospital staffs. This is a course of three two-hour sessions arranged by the Council Committee on Public Health and Education and the New York State Department of Health. This course offers an exceptional opportunity to obtain information on the current status of sulfonamide therapy. Since a broad field is covered, every effort has been made to compress it into the shortest possible time and the course can be offered only in its entirety. Although this course focuses attention on chemotherapy, it necessarily covers the general and other special forms of treatment of infections in the fields of medicine, surgery, urology, pediatrics, gynecology, and obstetrics. The sessions may be had either as lectures or clinics. A total of forty-three physicians are listed as speakers in this outline.

Rheumatic Fever.—The Committee on Public Health and Education and representatives of the State Department of Health prepared a list of speakers available for programs for county medical societies and hospital staff meetings. Meetings may be arranged as special single sessions or in connection with formal courses. This announcement appears in the *Course Outline Book*. A considerable number of lectures were given which are listed elsewhere in this report. Commissioner Godfrey, New York State Health Department, appointed an advisory committee on rheumatic fever which gives consideration to many matters including the graduate education regarding rheumatic fever. The physicians who lecture on this subject held a conference to discuss the educational program before it was made available to county societies.

Dental Health.—The Subcommittee on Dental Health prepared an elaborate outline announcing many speakers and subjects available for programs before county medical societies and hospital staffs and this appears in the *Course Outline Book*. In cooperation with the State Health Department and the District Branches of the New

York State Dental Society, three meetings were held in different parts of the state to present the latest information on dental caries. These meetings were held in Binghamton, Rochester, and Albany.

The Joint Committee on Dental Health has the following personnel:

New York State Dental Society—H. Shirley Dwyer, D.D.S., Chairman, 80 Hanson Place, Brooklyn; Leuman M. Waugh, D.D.S., 576 Fifth Avenue, New York City; Charles H. McNeeley, D.D.S., 1 Nevins Street, Brooklyn.

Medical Society of the State of New York—Harry Aranow, M.D., 355 East 149th Street, Bronx; Augustus J. Hambrook, M.D., 40 State Street, Troy; O. W. H. Mitchell, M.D., 428 Greenwood Place, Syracuse.

Industrial Health.—Following the appointment of the committee, arrangements were made for conducting inquiry and postgraduate education in industrial health by appointing a Study Committee. During the year, by conferences and correspondence, much information has been obtained regarding Industrial Health problems and other related activities. A special outline was prepared and included in the *Course Outline Book*. This outline suggested a list of topics and was prepared by Dr. Leonard Greenburg, a member of the Study Committee. Only one session was held in Industrial Health and that was in Buffalo. This meeting was regarded as very successful and was presented under the auspices of the Medical Society of the County of Erie, University of Buffalo School of Medicine, Division of Industrial Hygiene—New York State—Department of Labor, New York State Department of Health, and the Medical Society of the State of New York. The physicians in the following counties were invited to attend this session: Erie, Niagara, Genesee, Wyoming, Cattaraugus, Chautauqua, Orleans. Also invited were physician members of the area of the New York Society of Industrial Medicine, plant nurses, officials from various groups such as the Council of Social Agencies, the Tuberculosis Association, Senior and Junior Chambers of Commerce, labor organizations of the C.I.O. and the A.F. of L. embodying various subdivisions, insurance carriers, the Visiting Nurses Association, the local Health Department, and the New York State Department of Health. The School of Medicine of the University of Buffalo sent its junior and senior students. Later, it is hoped in this area to have an institute meeting, with material to be presented of a general character in which discussion would be participated in by the workers, personnel men, industrial managers, and by physicians.

Study Committee on Industrial Health has the following members: Herbert H. Bauckus, M.D., chairman, 925 Delaware Avenue, Buffalo; Robert K. Brewer, M.D., 865 Livingston Avenue, Syracuse; John H. Garlock, M.D., 50 East 77th Street, New York City; David J. Kaliski, M.D., 50 Park Avenue, New York City; John S. Lawrence, M.D., 260 Crittenden Boulevard, Rochester; Frederic E. Sondern, M.D., 180 West 58th Street, New York City. *Ex-Officio*: Edward S. Godfrey, Jr., M.D., State Department of Health, Albany; Leonard Greenburg, M.D., State Department of Labor, New York City.

Maternal and Child Welfare.—The Maternal Welfare Committee was changed to Maternal and Child Welfare Committee. In addition to the three members, Dr. Charles A. Gordon, chairman, Dr. James K. Quigley, and Dr. Ferdinand J. Schoeneck, a fourth member, a pediatrician, Dr. Alexander T. Martin, was added. In addition to the twelve Regional Chairmen in Obstetrics, twelve Regional Chairmen in Pediatrics were added to Dr. Gordon's committee. An understanding has been reached between the Medical Society of the State of New York and the New York State Department of Health regarding qualifications and compensation for obstetrical consultants. This service will be limited to those patients who, in the opinion of the attending physician, are unable to afford a private consultant. A letter announcing this service was prepared by the Subcommittee on Maternal and Child Welfare and was approved by the New York State Health Department. This letter, which requests each county medical society to submit a list of physicians willing to perform this service, has been sent to the presidents of all county medical societies. Answers to these requests are to be submitted directly to the Maternal and Child Welfare Subcommittee and a report will be made by the chairman, Dr. Gordon. The subcommittee from time to time supplies articles on appropriate subjects for publication in the *JOURNAL*.

Regional Chairmen in Obstetrics:

1. George W. Kosmak, 23 East 93rd Street, New York
New York, Richmond, Bronx
2. Harvey B. Matthews, 643 St. Marks Avenue, Brooklyn
Kings, Queens, Nassau, Suffolk
3. Julian Hawthorne, Highland Hall Apartment, Rye
Westchester, Rockland, Dutchess, Putnam, Orange
4. William M. Mallia, 1364 Union Street, Schenectady
Schenectady, Fulton, Montgomery, Schoharie, Greene, Ulster
5. Joseph O'C. Kiernan, 496 Madison Avenue, Albany
Albany, Washington, Saratoga, Columbia, Warren, Rensselaer
6. Elmer Wessell, 72 Clinton Street, Plattsburg
Clinton, Essex, Franklin, St. Lawrence
7. James L. Crossley, 240 Woolworth Building, Watertown
Jefferson, Lewis, Herkimer, Hamilton
8. Edward C. Hughes, 601 Medical Arts Building, Syracuse
Onondaga, Oswego, Oneida, Madison, Cortland, Cayuga
9. Stuart B. Blakely, 140 Chapin Street, Binghamton
Broome, Tioga, Chenango, Otsego, Delaware, Sullivan
10. Ward L. Ekas, 176 South Goodman Street, Rochester
Monroe, Orleans, Wayne, Livingston, Ontario, Yates, Seneca
11. R. Scott Howland, 531 West Water Street, Elmira

- Chemung, Schuyler, Steuben, Tompkins, Allegany
12. Robert C. McDowell, 50 North Street, Buffalo
Erie, Niagara, Chautauqua, Cattaraugus, Genesee, Wyoming

Regional Chairmen in Pediatrics:

1. Harry Bakwin, 132 East 71st Street, New York City
Manhattan, Bronx, Richmond
2. Charles A. Weymuller, 85 Pierrepont Street, Brooklyn
Kings, Queens, Nassau, Suffolk
3. Reginald A. Higgons, 264 King Street, Port Chester
Westchester, Dutchess, Putnam, Orange, Rockland
4. James J. York, 930 State Street, Schenectady
Schenectady, Fulton, Montgomery, Schoharie, Greene, Ulster
5. Hugh F. Leahy, 176 Washington Avenue, Albany
Albany, Saratoga, Warren, Washington, Rensselaer, Columbia
6. Sidney Mitchell, 71 Court Street, Plattsburg
Clinton, Essex, Franklin, St. Lawrence
7. Norman L. Hawkins, 300 Woolworth Building, Watertown
Jefferson, Lewis, Herkimer, Hamilton
8. Brewster C. Doust, 713 East Genesee Street, Syracuse
Onondaga, Oneida, Madison, Cortland, Cayuga, Oswego
9. John B. Burns, 153 Chapin Street, Binghamton
Broome, Tioga, Chenango, Otsego, Delaware, Sullivan
10. Albert D. Kaiser, 16 North Goodman Street, Rochester
Monroe, Wayne, Seneca, Yates, Ontario, Livingston, Orleans
11. George R. Murphy, 531 W. Water Street, Elmira
Chemung, Tompkins, Schuyler, Steuben, Allegany
12. William J. Orr, 135 Linwood Avenue, Buffalo
Erie, Niagara, Genesee, Wyoming, Cattaraugus, Chautauqua

4-H Club and Youth Activities.—Dr. J. G. Fred Hiss, chairman, is also the Health Director of the New York State N.Y.A. program exclusive of New York City. The chairman of this subcommittee has devoted considerable time and effort to improving the health program among the 4-H Clubs throughout the state. On June 23, 1941, Dr. Hiss addressed the School Physicians Association at Saratoga Springs. At this time attention was called to the health examinations of the 4-H Clubs and the overlapping and reduplication of health programs of youth organizations and the state school system. On August 25, Dr. Hiss attended a meeting of the 4-H State Health Committee at which time he urged that it would be better for the entire state if good physical examinations were made within the school system rather than have all the youth organizations, most of which are composed of school children, try to arrange for complete examination of their members. Acceptance of a

thorough school examination as the standard examination was advocated and the other organizations are requested to aid in having correctable defects corrected. Resolutions adopting suggestions for such a program have been adopted by the State Farm Bureau Federation, the State Federation of Home Bureaus, and the State 4-H Club Federation. The committee decided to discard the old annual health contest because it had very little health value, and has notified the Chicago office that New York State will not participate in the 1942 national health contest on the old basis. The chairman has addressed many groups of youth organization throughout the state during the past year.

War Medicine and Surgery.—In the early part of this year, President Kopetzky discussed with the Committee and the Council the advisability of preparing a list of speakers on plastic and reconstructive surgery and notification of the county medical societies of this program. Such a list was prepared and the county medical societies were notified. Later, when our country became actually engaged in war, another committee to supervise instruction in war medicine and surgery included the plan previously adopted concerning plastic and reconstructive surgery. This subcommittee is organized as follows: The chairman of the Public Health and Education Committee is the chairman of the Subcommittee on War Medicine and Surgery. One representative from each of the following fields has been appointed:

Plastic and Reconstructive Surgery.....	Gustave Aufrecht, M.D.
General Surgery... Frederick S. Wetherell, M.D.	
Orthopaedic Surgery.....	Leo Mayer, M.D.
Neurology and Neurosurgery.....	Byron Stookey, M.D.
Aviation Medicine.....	Louis H. Bauer, M.D.
Internal Medicine... L. Whittington Gorham, M.D.	
Industrial Hygiene... Leonard Greenburg, M.D.	
Epidemiology.....	James E. Perkins, M.D.

Already instruction has begun and it is the plan to provide medical societies and hospital staffs with a list of speakers and a wide variety of subjects.

Venereal Disease Control.—On December 11, at a meeting of the Council, the chairman of the Committee on Public Health and Education reported that the Committee on Public Health and Education considered that venereal disease control in New York State deserves attention of the Council. The following resolution was adopted as the stand to be taken by the Council of the Medical Society of the State of New York. First: That the control of venereal disease requires elimination of commercialized prostitution.

Second: That medical inspection of prostitutes is untrustworthy, inefficient, gives a false sense of security, and fails to prevent the spread of infection.

Third: That commercialized prostitution is unlawful, and that physicians who knowingly examine prostitutes for the purpose of providing them with medical certificates to be used in soliciting are participating in an illegal activity, and are violating the principles of professional conduct of the Medical Society of the State of New York.

A copy of the resolution was put in the JOURNAL and copies were sent to the following federal and state officials: the Secretary of War, the Surgeon General of the Army, the Surgeon General of the Navy, the Surgeon General of the U. S. Public Health Service, the Governor of the State of New York, Commissioner Edward S. Godfrey, Jr., and to Drs. V. A. van Volkenburgh, Edward S. Rogers, and William A. Brumfield of the New York State Department of Health.

Tuberculosis Conference Committee.—On this Committee, operating under the auspices of the state Department of Health, the state department of Social Welfare and Mental Hygiene, the State Charities Aid Association, the Metropolitan Life Insurance Company, and the Medical Society of the State of New York, Commissioner Godfrey, the chairman, on request of the Council, appointed Drs. Mitchell and Hambrook to serve with Dr. Irving. Studies by the Committee have been continued along several lines.

Case finding among contacts, it was agreed, needed to be stepped up to the utmost; and among the methods it became clear that x-ray as part of examination occupies a prominent place. The Council drew up a set of twelve suggestions, which were taken to the Conference Committee soon after the 1941 meeting of the House.

After discussions, the Conference Committee and Council agreed to certain revisions of the original wording of suggestion 10, leaving suggestion 12, however, for future discussion. The suggestions follow as revised:

1. The responsibility for communicable disease control rests largely with government health officials.
2. This responsibility carries with it the necessity of employing and advocating measures known or thought to be effective in disease control.
3. Such measures must be reasonable, without causing hardship, and at a cost which will not act as a deterrent. If the cost becomes relatively great, society must find a way, which is usually sharing cost through government taxation.
4. The per capita cost of x-ray examination for tuberculosis diagnosis is not a financial burden to some people, but to the great majority it is.
5. X-ray examination is necessary as a part of the tuberculosis control program and must be made available.
6. X-ray examination necessitates expensive equipment and specially trained physicians.
7. Patients, who, in the opinion of the health officer or his representative, for various reasons (contacts, etc.) should have a thorough physical examination including x-ray, as a part of the tuberculosis control program, should be rendered x-ray service without direct cost to themselves.

All such examinations should be done only on the written order of the health officer or his representative, or the order of the family physician, and approved by the health officer or his representative. The x-ray examinations are to be made only by

physicians licensed to practice medicine in the State of New York.

8. All x-ray examinations at tuberculosis hospitals and clinics should be done without direct cost to the patients.
9. X-ray examinations, when ordered as a part of the tuberculosis control program by the health officer and performed by a private physician, should be paid for from public funds.
10. No patients, except in emergency, should be examined at tuberculosis hospitals and clinics without approval of the superintendent of the hospital, or the director of the clinic, or on reference by a private physician.
11. In order to prevent lack of service and to encourage active participation of local health units, part or all of the cost of x-ray examinations should be borne through state aid.
12. To avoid misunderstandings regarding interpretation of x-ray findings, techniques and other matters, provision should be made for the establishment of an advisory board on x-ray procedures. Such a board should be composed of radiologists, the majority of whom are in the private practice of medicine. The members of this board should be compensated by, and function as part of, the state Department of Health. (NOTE: Original wording of No. 12 subject to future possible revision.)

During the year, studies of conditions affecting various parts of the state have been made for the committee, with appointment of local committees in a number of places to enlist the aid of all concerned. The program of the parent Conference Committee has been slowly but steadily crystallizing out.

The Deaf and Hard of Hearing

In order to carry on the work started but not finished by the State Commission for the Deaf and Hard of Hearing, President Kopetzky enlarged the Committee of the Society by the addition of four otologists, namely, Edmund Prince Fowler, M.D., C. Stewart Nash, M.D., John F. Fairbairn, M.D., and Ralph Almour, M.D.; A. J. Hambrook, M.D., was continued as chairman of the Committee.

Two meetings of the Committee have been held, at which time a review of the work accomplished was discussed, and the following report was approved by the Council:

REPORT

The State Commission was named with the idea of correcting abuses in the state as far as acoustically handicapped children were concerned. Surveys made several years ago by members of this Committee disclosed thousands of children in the schools of our state who were handicapped by hearing losses. No facilities were available at that time for the early diagnosis and correction of such handicaps. No effort was made to discover such handicaps in the preschool child. Two remedial laws were passed. One was for the reporting of any child with hearing defect, by parent, guardian, teacher, or physician, to the health department. The health department was empowered and directed to give such a handicapped child any and all necessary

treatment. This law if properly enforced would discover, in the preschool age, children with hearing handicaps, would allow necessary treatment, and prevent further hearing impairment. Another law directed especially in the interest of the school child was passed, which required annual hearing tests of all school children. Through the provisions of the Crippled Children's Act, the State Departments of Education, Health, and Welfare, in addition to many private agencies, remedial care is made available to parents who are unable to provide it.

Both these laws have been in the statutes of our state for three years, and have made possible the early discovery of cases and treatment of thousands of children who otherwise would have been neglected. All types of hearing loss, however, are not subject to satisfactory treatment and, in these cases, lip-reading instruction in addition to the regular class work is of paramount importance. This extra instruction makes it possible for the average child handicapped by hearing loss to keep up with the other members of his class. For these reasons efforts were made by the State Commission to pass a lip-reading bill. Last year this bill passed both houses of the legislature, only to be vetoed by the Governor. The bill, Senate Int. 162-Hastings; Assembly Int. 173-C. D. Williams, authorized school district trustees, as well as education boards and union free-school districts, to furnish instruction for physically handicapped children, including remedial instruction, and provided for state aid to help to pay teachers giving such instruction. In his veto the governor said that while he had no objections to the purpose of the bill, and while such corrective and remedial instruction should be extended to all children irrespective of the school they attend, the bill changed in a most important respect the equalization formula under which state aid is extended to public schools. The Committee felt that lip-reading instruction is a necessary aid to the acoustically handicapped child and that efforts should be made this year to have a bill introduced in the legislature to provide lip-reading instruction for all children requiring such aid.

The Committee registered a favorable comment on the appointment of a qualified otologist and the setting up of a soundproof room and installation of a properly calibrated audiometer approved by the Committee in the New York State Workmen's Compensation Department. The victim of an injury rarely has his hearing tested, and the referee is given hearing reports based on a percentage loss of hearing. Tests are taken on all different kinds of audiometers, and the department is asked to act as an official referee and without any precision instrument for guidance. A more accurate and equitable rating for hearing losses was also suggested to the Department of Labor.

Motor Drivers with Hearing Losses.—There is practically no evidence that persons who are partially or entirely deaf cannot drive safely. As a matter of fact a report on deaf-mute drivers, issued by the Department of Motor Vehicles of the State of Pennsylvania, reveals that the 600 deaf-mutes licensed to drive in Pennsylvania are, perhaps, the safest group of drivers in that state. These drivers, as a group, had only one minor accident to mar their record for a period of two years. In a single year 4 per cent of normal

operators were involved in accidents, as compared to $\frac{1}{4}$ of 1 per cent of the deaf. In other words, the deaf drivers were twenty-four times as safe as the so-called normal drivers. This also holds true in New York State. The driver handicapped by hearing defects is more alert than the average motorist, is more self-possessed, has better control in operating his car, and shows a wider knowledge of traffic rules and regulations. He thus compensates for his deficiency in hearing. More careful examinations are required before licenses are issued to such drivers, and a yearly re-check on their hearing is required. Full-length, rear-view mirrors are required in this state for all drivers with hearing defects, and the use of a hearing aid would improve the efficiency of the driver and should be required, just as glasses are required for persons with defective vision.

Hearing Handicaps and National Defense.—The Committee felt that it should continue the study started by the State Commission by making an inventory of the deaf and hard-of-hearing adults in the state and an appraisal of their skills for a national defense program and a study of the training facilities in the defense units for the deaf and hard of hearing, releasing of this inventory to the national defense units of the state and other state agencies. During the last war many skilled workers were released from industry to take their places in our defense forces, and their work was carried on very satisfactorily by individuals with hearing handicaps. As a rule, they are very careful, attentive, and excellent workmen. They are not distracted by ordinary noises and are especially useful in industrial plants where excessive noise is an industrial hazard.

The Use of Hearing Aids.—If lip reading is an aid to the hard-of-hearing child or adult, the addition of a properly fitted hearing aid makes possible the very best use of residual hearing. The same difficulty is found now in popularizing the use of hearing aids as was the case when glasses were first found to be so necessary for poor vision. Personal dislikes as to the appearance of glasses had to be overcome and their need emphasized. The same is true of hearing aids, but even more so. It is almost impossible to prevail upon an individual to wear a hearing aid unless he is old or hearing is almost entirely lost. Residual hearing should be preserved by the use of hearing aids as is vision by the wearing of corrective glasses. The great cost of most hearing aids prevents their use by many people who need them. Good hearing aids made by reliable manufacturers cost from \$150 to \$200. Until the manufacturers can furnish satisfactory models at a cost much less than that prevailing at the present time, their use will be of necessity limited. The Committee will endeavor to take this matter up with the leading manufacturers of hearing aids.

Calibrated Audiometers.—The Committee concerned itself with the question of calibrated audiometers because few are properly calibrated and only one has the approval of the American Medical Association's Bureau of Standards, yet all of them are still on the market. They are very inadequately calibrated, they are not steady or reliable, and what they profess to do on paper, namely, give a fixed standard of measurement like a thermometer, they do not do because they vary. Properly calibrated instruments are required in

order to provide proper hearing aids.

Hearing in Industry.—With the expansion of defense work in industry, it is more than ever necessary to protect men and women in industry whose hearing is liable to be affected by excessive noise, such as that of riveting, boiler making, pneumatic hammers, etc. While all possible noises cannot be eradicated from certain types of work, manufacturers have now perfected noise-softening or eliminating apparatus similar to mufflers on automobiles, and when this is used many of the offensive and injurious noises are eliminated. The committee considered the introduction of legislation making it compulsory in all industries where excessive noise is present for the employer to provide means of any and every kind which would lessen and perhaps obviate the onset of hearing impairment due to trauma from noise. Before such legislation is finally drafted, it is suggested that a conference be held with sound engineers, representatives of industry, trade union officials, and insurance experts, together with the Labor Department and others interested in suitable remedial legislation.

Exhibit at State Meeting.—The Committee has requested and has been accorded space reservation at the meeting of the Medical Society of the State of New York to be held at the Waldorf-Astoria Hotel, April 27 to 30. The latest types of hearing aids and audiometers will be on hand. Information covering facilities for care and treatment of persons with hearing handicaps will be available and specialists experienced in this work will be present to advise all seeking such information. Members of the Committee will participate in the scientific program during the meeting and will furnish articles of information for publication in the JOURNAL and newspapers.

List of Otologists in the State.—The Committee has endeavored to acquire an accurate list of all qualified otologists in the state. Each county medical society has been requested to furnish the names of all its otologists and, further, the president of each county medical society has been asked to name a committee of otologists to work in cooperation with the state Committee. A very favorable response has been received.

Blackouts, Air-Raid Alarms, and the Hard of Hearing.—Several communications have been received by members of the Committee regarding the ability of the hard of hearing to participate properly in air-raid and blackout alarms. Many handicapped by loss of hearing will be unable to hear such alarms and it is suggested that air-raid wardens and organizations concerned with hearing conservation have information as to all such individuals so that necessary aid may be provided. In case of actual damage to property by bombs or fire, this roster will be invaluable in seeing that such people are properly cared for. School children under present regulations will be returned to their homes if alarms warrant such procedure. It is suggested that no cotton or other obstruction be placed in the ears to prevent trauma by noise of bombs or excessive sound. Adults might properly use such protection, but children would be likely to do more damage than good by using them. Local hard-of-hearing groups are asked to meet frequently and keep in contact with defense organizations in each locality, thus providing a maximum of protection. Traffic accidents will increase during such alarms, and the hard of hearing will be required to be

unusually vigilant and observing. The Committee has had active cooperation from the New York League for Hard of Hearing and Miss Estelle E. Samuelson of that organization has graciously consented to act as secretary of the Committee, a position she has held since the Committee was formed eight years ago. Active cooperation is also given by the Empire State Association for the Deaf and all local groups affiliated with this work.

PART III

School Health Program

Your Council, as instructed at the last meeting of the House of Delegates of the Medical Society of the State of New York, has continued "its efforts along the present lines to the end that doctors be put in charge of health and health problems among children of school age, eventually bringing back to the Department of Health the health of our school children, because this is certainly where it belongs, and health education should be continued under the guidance of educators, whether lay or medical."

Your Council reports, with deep dissatisfaction, that the state Department of Education—withstanding further discussions in the last year between representative subcommittees of the Regents' Advisory Council and of the State Medical Society—has shown no disposition to make the basic changes in department procedure that were recommended by the State Medical Society in 1940.

The Subcommittee on School Health of the Council Committee on Public Health and Education is composed of:

F. Christopher Wood, M.D., *Chairman*.
 White Plains
 Albert D. Kaiser, M.D. Rochester
 A. Clement Silverman, M.D. Syracuse

In July, 1941, the subcommittee was invited by a subcommittee of the Regents' Advisory Council to discuss the proposals for changes previously made by the State Medical Society. At that meeting our subcommittee advanced for discussion the following principles, which it divided into three categories: "General," "School Health Service," and "Health Education."

General

"1. The school medical inspection should not be considered or accepted as an adequate substitute for periodic medical examinations and continuous health supervision by the private family physician.

"2. The parent must be brought into the picture. The primary and ultimate responsibility for maintaining the health of the child, for obtaining complete medical and health care for the child, including immunizations and correction of correctable defects, should be squarely recognized and assumed by the parent, assisted where necessary by the duly constituted agencies of public assistance.

"3. While not providing complete medical services, immunizations, or treatment of any kind, the schools should recognize and meet their responsibility of educating parents as to the importance of obtaining adequate and proper medical care, and of informing parents as to where and how such care may be obtained.

"4. The school should cultivate the interest and assistance of the medical profession in the community by recognizing the proper concern and more intimate knowledge of the family physician in regard to the health of the school child, by inviting the active participation and counsel of the profession in the school health program, and by directing those children whose parents can afford private medical care into the hands of the family physician."

School Health Service

"5. In view of the fact that physical education is only a single department or aspect of the entire school health service, the school medical inspector, not the director of physical education, should be the central coordinating factor—the leader and director of the health education and health service program in the school.

"6. The school medical inspector, or school physician, should be paid on a salary basis, and he should be paid enough so that the school may expect him to supervise and participate in the active school health program.

"7. The scope and content of the school health service should be clearly defined and carefully determined with a view to utilizing all related community services and avoiding unnecessary duplication of or competition with such services.

Health Education

"8. The relative functions of the school medical inspector, the director of physical education, the nurse, and the teacher, in regard to health education, should be clearly defined and this definition should be translated into practice."

In addition, our subcommittee submitted a prepared and detailed discussion of each of these principles. Also prepared and submitted were some ten recommendations for specific local and state action, including the recommendation that Section 491 of the Education Law be altered to require that state grants to local school authorities be made on the basis of school enrolment rather than of daily attendance.

Discussion indicated that there was a fair amount of agreement on some of these principles, but there appeared no disposition whatever to accept the principle that the school medical inspector should be the central coordinating factor, the leader and director of the health education and health service program. Despite the apparent general agreement on the majority of these principles, and although it was understood that the Regents' subcommittee would seek further conferences, no request for further discussion has been received by our subcommittee.

The Council feels that this situation indicates an attitude on the part of the Board of Regents of the University of the State of New York against changes in the present school health system—changes which the Medical Society of the State of New York deems essential to better promotion of the health of school children in the State of New York.

PART IV

Publications

The two publications of the Society, the *NEW YORK STATE JOURNAL OF MEDICINE* and the *Medical Directory of New York, New Jersey, and Connecticut*, have been produced in the year 1941 in a manner satisfactory to the Council from both literary and financial points of view.

Journal.—During the year there were published 251 scientific articles—an increase of 22 over 1940. The total number of text pages was 1,899 (including contents and officers' pages). Text content included the following sections: Scientific Papers, Editorials, Correspondence, Medical News (general and county), Book Reviews, Medicolegal, Public Health News, Hospital News, Maternal Welfare (recently changed to Maternal and Child Welfare), Medical Relief, Medical Preparedness, and Mental Hygiene. The scientific sections on Therapeutics and Diagnosis have appeared regularly and will continue to appear. The New York Pathological Society has decided to use another outlet for the reports of its transactions.

The policy was continued of accepting for instant publication timely papers having to do with war medicine and surgery. In some instances it was necessary to postpone publication of some of the scheduled articles.

The use of a new and smaller type for editorial and scientific sections, which was begun with the January 1, 1941, issue, has over the whole year made it possible to publish additional material representing an increase of 200,000 words.

Financially, the Council is pleased to report a marked improvement for 1941. With greater expenses for paper, wrappers, printing of 96 extra pages, and 19,150 more copies made necessary by increased circulation representing more members and more subscribers (each received the 24 issues for the year), the net cost has remained at the low level reached in 1940. This was \$15,847.58 for 1941, as compared to \$15,391.32 for 1940, thus giving a cost per member (calculated on "average" membership for each year) of 88¢ for 1941 as compared to 91¢ for 1940.

It is to be noted, however, that these figures from the auditor's report do not reveal the full picture of financial improvement in production as compared to the previous year. Not only were the extra costs met without corresponding increase in net cost, but a major extra expense was taken care of that implied savings in other departmental expenditures. This result was achieved by allocation to *JOURNAL* expense of substantial portions of the salaries of Dr. Irving, Mr. Anderson, and clerical workers with divided duties. These were bookkeeping entries only, but correspondingly lower salary costs show for the Administration and the Public Relations Bureau. The change in charging salaries according to the disposition of divided services was made in an effort to bring out financial reports truly representative of functional performance of officials and employees. In this fashion it is figured that the *JOURNAL* shouldered \$3,171.77 in the year 1941 as an extra cost.

All the additional expenditures—for paper, printing of more pages and copies, and allocation of salary fractions—were met by larger income

from advertising, and thus the net cost at the same level indicates a real betterment. Actual less cash was expended to produce the JOURNAL in 1941 as compared to 1940, in the sum of \$2,715.51, not counting betterments for more pages and more copies printed.

Directory.—As directed at your last meeting, the 1941-1942 edition of the *Medical Directory of New York, New Jersey, and Connecticut* was prepared in accord with the custom in vogue over the years until the change was tried in the 1939-1940 edition. The listing of physicians by towns was again arranged with Manhattan first, then the other boroughs of Greater New York, followed by the other towns in alphabetical order.

The suggestion that the *Directory* be thumb-indexed for greater convenience could not be followed out because the cost would have been prohibitive.

The financial experience with the 1941-1942 edition of the *Directory* shows improvement in several ways. Even with the added cost of printing 88 more text pages, the net cost was brought down to \$18,096.93 as compared to \$20,010.40 for the 1939-1940 edition, the cost per member being \$1.02 instead of \$1.15, a saving of \$0.13 per member. However, these are the auditor's figures as of December 31 in each year; and a still further improvement will be shown as sales have proceeded since the first of the year. As of February 15, 1942, net income from the sales for the 1941-1942 edition was \$553.31, as compared with \$112.25 net income from all further sales of the 1939-1940 edition; and sales of the present edition are still going on.

For comparative purposes it should be noted also that the improvement in net cost was made in the face of allocation, for the first time, of portions of the salaries of employees with divided duties to the expense of production. This policy reduced by \$2,144.63 the net cost of the Bureau of Public Relations.

Notwithstanding this favorable report, the Council believes it wise, under present circumstances, that consideration be given by the House of Delegates to postponement of publication of the next edition of the *Directory*. At the 1940 meeting the House directed annual publication beginning December 1, 1941.

The Council received the following report from the Publication Committee, dated October 9, 1941:

"In the light of experience gained in the production of the forthcoming edition of the *Medical Directory of New York, New Jersey, and Connecticut* (which will be in the hands of the members the first week in November), the Committee makes the recommendation that the following edition not be published until after the calendar year 1942. The Committee reached this conclusion because of the following reasons:

1. The cost of paper has been jumping rapidly upward and it is difficult to secure deliveries on time—even under existing arrangements for the JOURNAL that were made some time back.
2. The cost of delivery has risen, even for the forthcoming edition of the *Directory*.
3. Three hundred and fifty-five (355) members whose dues were remitted for 1941 have already gone into military or naval service,

prior to June, 1941, and will have no need for a *Directory*. In all probability many more will go into service during 1942.

4. The remission of state assessments for all of these members will necessarily diminish income as compared to what would have been expected under ordinary circumstances."

The Council went on record as follows:

"That in view of unforeseen circumstances and the present economic situation of the Society the opinion of the Council is that a *Directory* for 1942 should not be published until after the House has an opportunity again to assess the merits of this question, it being understood that that would mean a delay of probably six months in the publication of the next *Directory*."

In keeping with this decision the preliminary preparations for the next edition, which in the ordinary course of events would have been initiated in the fall of 1941, have been held in abeyance.

Medical Publicity

Radio.—Following the research work in radio which was described in the report of the Council one year ago, a program series, "Doctors for Defense," was conducted over station WMCA for thirteen weeks in 1941. These programs have been mimeographed and are available at cost to medical societies throughout the country. The titles of the programs are: *Banting: Defender . . . Against Diabetes; Davidson: Defender . . . Against Death from Burns; Minot: Defender . . . Against Pernicious Anemia; Biggs: Defender . . . of the Public Health; Smith: Defender . . . Against Parasite Diseases; Spender: Defender . . . Against Rocky Mountain Spotted Fever; Gorgas: Defender . . . Against Yellow Fever; McCoy: Defender . . . Against Parrot Fever; Goldberger: Defender . . . Against Pellagra; Francis: Defender . . . Against Typhus; Jackson: Defender . . . Through Invention; Park: Defender . . . Against Diphtheria; Jacobi: Defender of the Lives of Children.*

The results of research, and the experience in these broadcasts, have been made available to the membership of the Society as well as those interested in educational broadcasting throughout the country in three bulletins entitled: *The Doctor Takes to the Air; Doctors for Defense; and Radio Commentary on "Doctors for Defense."*

The librarian at Mt. Sinai Hospital requested a recorded transcription of the program devoted to Dr. Abraham Jacobi for the historical files of the hospital. This was supplied.

It was impossible to continue this series permanently because a sponsor satisfactory to the Society and willing to bear the expense of these broadcasts could not be found. The costs to station WMCA averaged \$700 per week; to the Society, for a script writer, an assistant, and incidental expenses, \$100 per week.

But it has been, on occasion, the privilege of the Public Relations Bureau to assist in preparation of other radio material. Most notable in this respect was collaboration with the Columbia Broadcasting System in its half-hour dramatized national broadcast on March 16, *America at Work: Doctors.*

Post graduate Medical Education.—Twenty-one releases regarding institutes and other educational programs sponsored by the Council Committee on Public Health and Education received notices in newspapers in the counties served, as follows: Cayuga, Columbia, Cortland, Delaware, Dutchess, Elmira, Erie, Jefferson, Madison, Monroe, Montgomery, Nassau, Oneida, Onondaga, Oswego, Otsego, Rockland, St. Lawrence, Schenectady, Suffolk, and Tioga.

District Branch Meetings.—All district branch meetings were covered by releases to the daily and weekly press, differing in each instance. Mr. Anderson, director of the Public Relations Bureau, attended all these meetings.

Other Newspaper Releases.—Special releases were issued to the press on the talk by Colonel Samuel J. Kopetzky, M.C., at the meeting of the Monroe County Medical Society, May 29, 1941. Releases were sent to the daily press of the state, to syndicates, and to special departmental editors, on editorials appearing in the JOURNAL for August 1, November 15, and December 15.

Printed Matter.—Reprints of "The Role of the Doctor in Defense," by Colonel Kopetzky, which appeared in the JOURNAL, were sent to a selected list of 5,000 editorial writers, radio commentators, science writers, and health, welfare, and educational publications.

An article entitled "Medical Problems in the Defense Program," by Colonel Kopetzky, was reprinted from the JOURNAL of October 15. This article presented an important interpretation of the significance of selective service statistics, often distorted by persons high in government circles. A total of 25,000 copies of this document was printed. Distribution included health, welfare, and educational publications, dailies and weeklies, libraries, lawyers, clubs, labor unions, farmers, nurses, teachers, and preachers. The Vertical File Service of H. W. Wilson Company, New York City, sent copies to 1,800 public libraries throughout the United States.

An article entitled "The Medical and Social Challenge of Alcoholism" was reprinted from the JOURNAL of December 15, 1941, and mailed to a list of 2,200, including health commissioners, editorial writers, departmental editors, radio commentators, and science writers, in addition to welfare, health-department, educational, and general publications.

Bulletins.—Four bulletins were issued in the Club Talk Series. These were prepared for the Bureau by James E. Bryan, executive secretary, Westchester County Medical Society. They have found high favor among physicians, health workers, and organization and institutional executives throughout the country.

In a letter to the Bureau from Thomas P. Fleming, librarian, College of Physicians and Surgeons, Columbia University, this comment is made on the bulletins of the Public Relations Bureau:

"We have been very grateful to you for sending us your bulletins. They have been extremely useful in a number of ways. With all of the defense activities, many doctors are being asked to speak to small local groups and your Club Talk Series has been particularly helpful to such doctors. Then, too, a number of nurses are giving home nursing courses and the subjects treated in your bulletins and the method of presentation

have been very helpful to such individuals.

"In fact, I may tell you that your bulletins have been so popular that our file is rapidly disappearing. Although at one time our file was complete, the only numbers which we have available are 7, 13, 14, 15, 16, 17, 24, 30, 32, 34, 35, 42, 43, 44. If you could supply us with the missing numbers we would be deeply appreciative."

Titles of the Club Talk Series are: *Fear—the First Enemy of Mental Health*; *Teaching Youth About Cancer*; *It Makes a Difference What We Eat*; and *Progress in Social Hygiene*.

In cooperation with the Committee on Public Health and Education and Dr. Kress of the State Health Department, a special bulletin was issued and distributed. It is entitled *Outline Material on Cancer*.

Other Activities.—Mr. Anderson was elected head of the National Association of Publicity Directors, as chairman of the board for the year 1942-1943.

At the request of Dr. W. W. Bauer of the A.M.A., Mr. Anderson participated in the program on Health Education at the annual meeting of the American Public Health Association, Atlantic City, October 13, 1941. He spoke at the Horace Wells Club annual dinner at Hartford, Connecticut, December 11, 1941. He attended the Conference of Secretaries and Editors in Chicago, November 14, 1941, and the usual meetings of committees of the Society held from time to time throughout the year.

Special assistance was given the Institute for Propaganda Analysis in the preparation of a pamphlet on medical public relations; the *Chicago Tribune* was supplied with information for a feature story; and numbers of individuals, physicians as well as laymen, were assisted in matters relating to medical publicity.

Apparent Expense Increase.—Audits for 1940 and 1941 show expenses for the work of the Council Committee on Medical Publicity increased in the latter year by \$5,544.77. This needs clarification in the light of the situation in the two years. The audit shows that in 1940 the sum of \$15,894.13 was spent, and in 1941, \$21,438.90. To present a true picture of activities, from an administrative point of view, these two years should be averaged, showing an expense for each year of \$18,666.51. This is the reason. In the spring of 1940 demands for public relations work were not so great as usual, and less than the proportionate allocation was spent. In the fall we took over plans to engage in radio broadcasting pursuant to the mandate of the 1941 House of Delegates. Preparatory work was comparatively inexpensive. But when the program got under way, April 9, 1941, expenditures increased sharply. As the project began in the late fall of 1940 and ended the following August, with the chief burden of expense in 1941, expenses for the two fiscal years are thrown out of perspective.

Plans for 1942.—Since the last annual meeting, the United States has gone to war, doctors are being called into service, many controversial issues to which the Public Relations Bureau addresses itself are in temporary abeyance. It is planned to limit expenses for public relations work in 1942, to basic and essential interpretation by the cheapest methods possible, and make a considerable saving on the budgetary allowance.

But it is essential that public relations work be continued throughout the war period. This is necessary to fulfil one of the purposes for which the Society exists, as stated in the Constitution: "To enlighten and direct public opinion in regard to the problems of medicine and health for the best interests of the people of the state."

But continued public relations activity is also advisable for practical and utilitarian reasons. At the conclusion of the war there will be a problem of unemployment the like of which this country has never seen. We shall find fixed upon the social order certain government policies of control over business, industry, and medicine—controls relinquished to the government willingly by the people because of the extremity of military needs, but which will not be ceded back to industry, business, medicine, and the people without a battle for the preservation of individualism. This fight on behalf of medicine can only be waged in the forum of public opinion through a public relations bureau which has not been allowed to languish, but has continued to function, though on a restricted and rationed diet. We should keep up contacts with key persons, retaining the ear of the public and maintaining a mailing list, which will be invaluable in building public opinion at a future time when a public relations bureau may very well be the crucial factor in determining vital issues. There are those who believe that the existence of this Bureau had much to do with delaying the enactment of compulsory health insurance a few years ago; it may very well, at another time in the future, stand the medical profession of New York State in good stead. Artificial respiration can be applied too late. The *alerte* may be sounded without warning.

During the last year or two, Mr. Anderson's services have been increasingly claimed by the Committee on Publications and the Committee on Office Administration. Therefore his activities in 1942 are to be equally divided between this work and public relations.

PART V

Nonprofit Medical Expense Insurance

The Subcommittee of the Council Committee on Public Relations and Economics has continued its work in this field with the same personnel:

Herbert H. Bauckus, M.D., *Chairman*, Buffalo

Walter T. Dannreuther, M.D., New York

William Hale, M.D., Utica

The Council received and approved the following report from the subcommittee.

REPORT

In the 1941 Annual Report to the House of Delegates of the Medical Society of the State of New York, the subcommittee presented a résumé dealing with the formation of plans in New York State and offering a limited analysis and discussion of nonprofit medical expense indemnity insurance. The House in 1941 took appropriate action on certain fundamental questions relating to this form of insurance. The members of the Society are respectfully invited again to consult this report for a better understanding of the subject.

In New York State there are three outstanding organizations operating actively: Medical Ex-

pense Fund of New York, Inc., Brooklyn; Medical and Surgical Care, Inc., of Utica; and the Western New York Medical Plan, Inc., of Buffalo. There are similar groups functioning in various other states, of which the California Physician Service and the Michigan Medical Service are the most widely known.

First of all, it should be plainly stated that the public and the practitioners of medicine stand in no small debt to these pioneers who have so faithfully gone forward in this most difficult task of expanding the avenues of direct medical care. Organized medicine requested this venture; it must follow with greater encouragement and support.

Clearly, the opportune time for selling medical care policies to the indicated economic stratum is at hand. At all times we have had the responsibility of safeguarding the health of our American workers and their families. In times of war, however, when their productive capacity and their morale are worth so much to the achievement of victory—and victory worth so much to the world—we have a far greater stimulation to our zeal, our service becoming a privilege inspired by the love of country. What the war and the price of liberty will cost our people no one can foretell, but all medical authorities are already deeply concerned with the oncoming peril to life and health.

At the present wage level, the worker has the means to buy medical indemnity insurance. He will buy the right kind of policy at the right price when he becomes educated to the benefits of budgeting for health. It should be remembered that the recent rise in wages is somewhat counteracted by the increases in the cost of living, by increased taxation, and the paying of debts contracted in previous years. It is not likely that the existing earning opportunities will continue indefinitely, but if we can make regular saving for the cost of medical care a habit with the worker, we may be sure that he will make every effort to continue his protection when employment becomes less remunerative.

The time and the tide being thus ripe, why the limited success in enrolling large numbers of people in the existing plans?

There are, no doubt, shortcomings in the plans as they stand today, and we hope that these will be evaluated and faced squarely by the local groups themselves. Looking toward the future, we present the following for consideration:

1. Educate the individual and the community to the great value of preventive medicine and early medical care. Insist that the official public health agencies increase their educational efforts by means of circulars, the radio, and the press. Make genuine and alive the often repeated statement that "the health of the people is the first concern of the government" by insisting that there be a physician as Secretary of Health in the Cabinet of the President of the United States. Public opinion should most heartily support this idea for the comfort and health of future generations. Institute health programs, emphasizing especially child health and industrial hygiene. Meet the layman on common ground of informed understanding. Ask for, and provide, lay help in educational programs.

2. Point out the importance of periodic and

regular health examinations. Prepare in the plans an examination system that will be satisfactory and thorough.

3. Provide good medical care, and prevent the lowering of modern standards by an adequate fee system, following in the main the Workmen's Compensation fee schedule of the Department of Labor of New York State. The cost of living of physicians is rising, too. The public would quickly associate inadequate fees with inferior service.

4. Build your plans chiefly on large groups, so that large numbers and unweighted samples are substituted for selective risks. This will allow minimum premiums, greater coverage, and should lead to the elimination of the troublesome deductible fee or coinsurance clause.

5. Do not exclude important catastrophic diseases, such as tuberculosis, syphilis, and other infectious diseases which constitute a great public health hazard.

6. Provide within the plans facilities for laboratory and x-ray service when they are necessary for proper diagnosis and treatment.

7. Keep the premium rate low enough first to provide the lower income groups with adequate and complete medical care for every insurable illness of a serious and catastrophic nature; and add specialized services as the plans will bear them. A desirable policy, widely sold, will soon furnish a cushion for additional service and possibly for a service to the unemployed. The cost of any plan should be estimated with the accessibles of a community in mind rather than with the thought of "how can we manage at this price?" If an area of 750,000 inhabitants has an insurer potentiality of 150,000 organized men and women workers (excluding their families), this figure should serve as a guide to determine the maximum cost to the consumer based on a minimum number of participants necessary for the fullest medical coverage. Such an attitude will change our entire approach to the selling of the plan and other administrative problems.

8. Institute educational and sales projects within the membership meetings of the workers. We are an organized profession—let us recognize other worthy organizations.

9. Secure consumer participation by inviting rank and file representation to the membership of Boards of Trustees of medical indemnity plans. Encourage physician participation in education and promotion.

10. Devise practical methods for a closer welding of publicity and sponsorship from lay community groups.

11. Sell medical indemnity insurance independent of hospitalization insurance plans. In many ways they differ greatly.

12. Give careful and well-studied consideration to the formation of a State, or an American Medical Association, plan for nonprofit medical expense indemnity insurance. Such a plan would have to be quite flexible and easily adaptable to local conditions. Its development, which should possibly be started this year, would undoubtedly encourage the formation of additional prepayment plans.

It might be well, at this point, to draw a few comparisons between medical indemnity insurance and any other type of insurance, be it life, fire, automobile, or even hospitalization insurance. A casual glance at the underlying principles in any of the above-mentioned schemes will clearly show the fundamental difference between these and medical indemnity insurance. Broadly speaking, we can say that all four types have a very wide spread of coverage, with payment for losses usually only once and after long periods of premium payments. All four are carried and sold with the expectation that they will not have to be called upon. Medical indemnity insurance, however, is sold and bought with the clear understanding that every individual has some signs and symptoms each year which should be attended to, and for which the policy should be utilized. Moreover, by advocating better and more complete preventive medicine, medical indemnity insurance plans invite the insurer to the fullest use of his policy.

If we understand these differences we will free ourselves of a good deal of mechanical thinking usually associated with the word "insurance." Adjustments on the part of both doctor and patient will be made more readily, the financial features will take second place after service, and a desire will grow among all parties concerned to make the plans function well.

It has been said that medical expense insurance has been approved by the organized medical profession because it was on the defensive against proposed legislation for compulsory sickness insurance. Those of us who sincerely strive to better our cooperation with public welfare groups will give little heed to such statements except in remembering that the American public has always been able to see that political medicine is not good medicine.

It is a curious phenomenon that all through the years the progressive physician has been forced to fight for humanity in the false and unpleasant light of a defendant of his own interests. To protect our people from the charlatan, the sorcerer, and the quack, from the inadequately schooled, the untrained, and the inexperienced, from the commercial-minded exploiter of misery and the symptom-monger of the present day, the medical profession has ever and anon—and often alone—fought legislation which it believed to be bad, solely in the interest of its lay brother.

The winning of the war has become a unanimous desire in the minds of our people. The worker in industry is proud of his responsibility in helping to win the war. He will want to do everything in his power not to jeopardize this responsibility. He will be eager to do his share in protecting himself and his family against sickness, and if once he has known the benefits of this protection he will never again want to relinquish them. He will learn to see health as the most important part in his budget next to food and shelter. He will sacrifice for this protection, even when the wave of higher earnings has subsided.

In closing this report, your Committee wishes to state its sincere belief that in providing nonprofit medical expense indemnity insurance plans the medical profession is hopefully building for the future of the American people.

PART VI

Medical Relief

The Council has continued the same Subcommittee on Medical Relief, working under the Committee on Public Relations and Economics:

E. Christopher Wood, M.D., *Chairman*.....
 White Plains
 Carlton E. Wertz, M.D..... Buffalo
 F. Leslie Sullivan, M.D..... Scotia

The Council transmits the following report of the Subcommittee, with its approval.

REPORT

At the last meeting of the House of Delegates, in April, 1941, your Subcommittee on Medical Relief presented a detailed report* of its discussions with the State Department of Social Welfare with respect to several Principles previously adopted by the House of Delegates to govern working arrangements between the medical profession and the Departments of Public Welfare. Included in the 1941 report were: a detailed enumeration and discussion of each of these principles; a statement of the basic policies essential to the establishment of a satisfactory local medical care plan; and a Joint Statement, indicating and explaining in detail the general background of the existing methods of providing medical care, and emphasizing throughout the central role the physician and the local medical society should play in determining medical needs and making plans to meet them.

Conferences and discussions have continued during the past year, and the following Joint Statement is an attempt to evaluate progress made in providing medical care to the needy, under the Principles upon which agreement was reached.

Joint Statement

*From the New York State Department
 of Social Welfare and the Medical
 Society of the State of New York*

Local Medical Care Plans
in the State of New York

"As of March 15, 1942, an approved local medical care plan had been adopted or was in course of active preparation in Social Welfare Departments in twenty-two counties and five cities in New York State—an area embracing more than three-fourths of the total population—to make available necessary medical care to at least 578,000 needy men, women, and children.

"In New York State, exclusive of New York City, local medical care plans were approved and in operation in fifteen counties and two cities, covering some 80,000 persons or more than one-third of the total number of recipients of public assistance, and such plans were in active development in seven additional counties and two cities embracing 46,000 more persons—so that about one-half of the persons receiving public assistance outside of New York City have, or will soon have, available to them a comprehensive medical service, adapted to local medical needs and facilities.

"New York City, with a medical care program peculiarly its own, is also developing a local medical care plan to conform with our basic policies. The 452,000 persons in New York City in receipt of public assistance comprise more than three-fifths of the total public assistance case load in the State—so that, although there are thirty-four counties and forty-five cities in the state with no local medical care plan under development, these seventy-nine remaining public welfare districts represent less than one-fifth of the total of 714,443 persons receiving public assistance in the state in January, 1942. These districts continue to render medical care to the needy under the rules and regulations of the State Department Medical Manual.

"Initiation of Local Medical Care Plan.—Complete freedom of action on the part of the local welfare district prevails in the initiation and adoption of an approved local medical care plan. A commissioner of public welfare can either continue to operate within the general restrictions of the *Manual of Medical Care*—which means continuing state review of certain medical problems—or take steps to prepare a tailor-made medical care plan for his community specifically designed to fit its special needs and special resources, a plan which, if approved as to basic policies, would make possible complete local control, both medical and fiscal.

"Preparation of a local medical plan usually takes the following course. (1) There is increasing concern on the part of the public welfare official with the problems of medical care, since, as large numbers of the physically fit become employed and self-sustaining, a higher percentage of persons still receiving public assistance is unemployable because of physical defects, poor health, and illness. (2) It is noted that a disproportionate amount of total welfare expenditures is for medical and hospital care. (3) Since much of this cost involves hospital care, which in the main is not reimbursable, the public welfare official seeks the advisory and consultation service offered by the State Department of Social Welfare in the formulation of a complete local medical care plan.

"The first step in the formulation of this medical plan consists in the preparation of a two-year summary of all expenditures, for medical, dental, and nursing services, hospital and convalescent care, drugs, medical supplies, and prosthetic devices—made under existing arrangements. This is analyzed for completeness by an area medical social worker, who then proceeds to compile a complete inventory of all medical and health facilities and services, both public and private, available in the community. She then makes a careful record and analysis of all the procedures and methods through which medical care is provided, following a request for any item of such care. Then both the inventory of facilities and the analysis of procedures are discussed with the public welfare official in the light of their relationship to the basic policies and procedures which are the minimum essential for the adoption of an approved local medical care plan. Since these basic policies are sufficiently broad to permit an infinite variation in detail to meet special local problems and needs, the initial draft of the local medical care plan is frequently revised from two to six times before

* See "Medical Relief: Joint Statement," New York State J. Med., 41: 619-624, No. 6 (March 15) 1941.

it is considered satisfactory to all the participants in the plan.

"In the consideration of local problems and the various possible alternative methods of providing medical care, the advice and guidance of local medical societies are invaluable, and the labor of preparing a plan is made immeasurably more easy when such cooperation is willingly given.

"Scope of Local Medical Care Plan.—An approved local medical care plan may provide for all forms of medical care, including many or all of the following:

- Acute illness, home or office
- Ambulance service
- Boarding homes for invalids
- Chronic illness, home, office, etc
- Clinic care, by referral
- Consultant services
- Dental care, including
 - Prophylaxis, Treatment, Fillings, Extractions, Dental surgery, Dentures
- Drugs, sera, etc.
- Eye examinations
- Eyeglasses and glass eyes
- Fractures
- Hospital care
- Laboratory services
- Major surgery, home or hospital
- Medical services in hospital
- Mileage (zoning basis)
- Minor surgery
- Nursing care, including
 - Visiting nurse, per visit
 - Registered nurse, per day
 - Practical nurse, per day
 - Home medical aides
- Nursing home care
- Obstetrics, home or hospital
- Physiotherapy
- Pneumonia treatment
- Preventive services, by referral
- Prosthetic or surgical appliances
- Radium treatment
- Sickroom supplies
- Specialist services
- Tuberculosis treatment, home
- Venereal disease treatment
- X-ray diagnosis
- X-ray treatment

"It should be recognized that while all of these items of medical care can come within the scope of Section 184 of the Social Welfare Law as a responsibility of the local welfare district, state reimbursement for some expenditures is not available because of *specific legal restrictions* or exclusions.

"General Impressions and Summary.—Good medical care can be made available to meet the medical needs of the individual, on a simple and efficient basis, under an approved local medical care plan. Since the local plan is designed to meet special local problems and needs, it can be changed to meet new problems and needs. An opportunity is given for participants in the medical plan, e.g., physician, dentist, nurse, hospital superintendent, etc., to take part in the formulation of the local plan and to submit to the public welfare officer or his medical director suggestions for correction, amendment, or improvement in the method or terms under which

services or supplies are provided. For example, if one or more physicians in a community operating under or preparing for an approved local medical care plan feel that the policies and terms of the plan are unreasonable, they should not criticize the plan without first submitting their comments for proper consideration by the public welfare official.

"The commissioner of public welfare has a dual responsibility in the development and operation of a medical care plan: (1) he is responsible for providing necessary medical care for persons under his care; and (2) he is responsible for an economical administration of medical expenditures, to permit him to provide all the other necessities of life for such persons within the total appropriations of tax funds made to him.

"The welfare official, both state and local, must consider as a resource any state or federal funds which may be available to him, under existing statutes. It was for this reason that representatives of the Medical Society of the State of New York agreed "to go along" with a "direct payment plan"* which would require certain patients to pay physicians directly for authorized medical care. This plan made possible participation by both the state and local welfare departments in federal funds made available under the Social Security Act. The experience with this plan to date indicates that patients fail to pay physicians for authorized services only in a negligible number of cases.

"The program leading to installation of approved local medical care plans gives an opportunity to each community to adopt and assume full local responsibility for providing good medical care to needy persons in the community—with full recognition given to special needs and special resources. Physicians, welfare officials, appropriating bodies, and all others interested are urged to continue their support of this program, which has shown that it can integrate and correlate all of the medical care services which are provided in a community at public expense."

CHRISTOPHER WOOD, M.D., *Chairman*,
Subcommittee on Medical Relief, Medical
Society of the State of New York
LEE. C. DOWLING, *Deputy Commissioner for*
Public Assistance
H. JACKSON DAVIS, M.D., *Chief Medical Officer*,
State Department of Social Welfare

PART VII

Legislation

The Council Committee, charged with the duty of studying legislation and putting forth the positions taken by the Society, was continued with the same personnel:

John L. Bauer, M.D., *Chairman* . . . Brooklyn
Walter W. Mott, M.D. . . . White Plains
Leo F. Simpson, M.D. . . . Rochester

The Committee makes the following preliminary report as of March 7, 1942. A supplementary full report will be ready for the House on April 27, 1942.

* See "Medical Relief for the Aged, the Blind and for Dependent Children," New York State J. Med., 41: 1006, No. 9 (May 1) 1941.

REPORT

Many of our legislators are on the job the year around. Those who are lawyers may be associated as counsel to business and industry, seeking a certain amount of favorable legislation. This legislation may be introduced by the lawyer himself—or he may interest another legislator, not necessarily a lawyer. These legislators may exchange courtesies—and strengthen and support the efforts of each other. It may be clever to favor or disapprove a bill in one body, knowing that others will offset the action in the other body. There may be nothing vicious in such procedures. The legislators may not sufficiently understand the import and far-reaching effect of the particular bill, in the pell-mell rush of legislation; they may be pledged to vote to please a friend.

It is our business to inform the legislators so that they shall be able to act intelligently and conscientiously on the bills which concern the welfare of the people from a health standpoint. We know that the lawyer may be influenced by the fact that some judge has mistakenly decided that x-ray diagnosis is not the practice of medicine, or by some other similar court decision. We should guide our legislators; if we do, we shall find them rather responsive.

We have a trust, and we as doctors realize and appreciate that trust. We may share that trust with the legislators by having them understand our attitude. The health interests of the people, of today's patients, of tomorrow's sick, must be protected. So we attempt and favor beneficial legislation and we try to block baneful legislation. We must interpret bills for them.

It was all very well to set up physiotherapists, mostly veterans of the first World War. We do feel that we owe a great deal to the veterans. But the restrictions were wise—the diagnosis and prescription for the kind and amount of modality to be given by a physician. These restrictions are beneficial to veterans and their families as well. The law has been disregarded—rarely is the doctor consulted. Generally, the physiotherapist treats as he will, without the formality of diagnosis and prescription. In conference with them and their counsel, Judge Dyer, we learned that they feel competent to diagnose and treat. So, in their new bill they are asking to practice medicine, and the legislators, if properly advised, will not permit it.

Each year, the doctors pay a registration tax, the monies to be used to enforce laws to prevent charlatans and quacks from their injurious practices. The physicians should not be required to provide for this service, except as citizens—and all citizens for the common good should provide the costs. In other words, sufficient money should be employed, taken from the general tax funds. At present it is a class tax, unfair, insufficient in amount; therefore only feeble and almost futile attempts to enforce laws can be made.

Those known as chiropractors are practicing illegally in New York State. The law should be enforced against them. We are yearly asked to appease these men—to pacify them by taking some of these illegal practitioners and giving them recognition, setting them up as a board of experts, legalizing them to examine and qualify the others. Scientists declare there is no scienti-

fic value in chiropractic. The chiropractors are busy in Washington. They are petitioning Congress for the right to treat federal employees, under the Federal Compensation Act. If this Tolan bill be successful, it might well be the slogan for the struggle in New York State. We refer to the Assembly Bill—Brees—No. 1434.

The practice of chiropractic as herein defined is hereby declared not to be the practice of medicine, within the meaning of the laws of the State of New York defining the same.

A second entering wedge! The first happened through a decision made once upon a time by a judge that the use of x-ray is not the practice of medicine. So when we desire to safeguard the interests of the people in their health, we find we are seriously opposed by the chiropractors—for x-ray diagnosis is the practice of medicine—and only one fully qualified to practice medicine can make such diagnoses correctly. Hence, the chiropractor may not use x-ray and loses his first entering wedge.

Many physicians in the State of New York are following, in this spirit, the bills introduced in the legislature, as well as federal legislation. We are aware of certain proposed federal legislation which would be inimical to the Associated Hospital Fund and the like. We are aware that the Hampton Bill is, on the other hand, the product of a certain well-known sponsor of the Associated Hospital Fund, seeking a change in the law which we all worked so hard for—the law that prevents any corporation from issuing combined contracts for both hospital service and medical expense indemnity.

Our executive officer, Dr. Joseph S. Lawrence, has a bureau of newspaper clippings which proves very valuable in our work. Late last spring and during the summer, Dr. Lawrence was busy with correspondence with the other states, learning all about the chiropractic laws and schools and boards; and obtaining letters from prominent scientists as to their opposition to the chiropractors. Some of us have copies of all of this material and lately he has had mimeographed, in quantities, these letters from the scientists, so that Congressmen and legislators may be thoroughly informed.

We need not enumerate or describe the many bills concerning automobile drivers' licenses, compensation, hospitals, health questions, labor problems, expert medical witnesses, malpractice, nurses' registers, x-ray, State medicine, Medical Grievance Committee, life insurance, etc.

The Annual Conference of County Society Legislative Chairmen was held at Albany, on Friday, February 20, 1942, and a very earnest, well-informed, actively participating and enthusiastic group was present. Thirty-nine counties, one more than last year, had representatives. All the bills to date were carefully considered and acted upon, a fine testimony to the successful methods employed by our executive officer.

The nurse training school problem was introduced and a method of procedure for later consideration and action was given to those most interested. Welfare problems were referred to the proper committee. Conferences during the year have been held with senators, assemblymen, doctors, lawyers, judges, and laymen.

To Dr. Douglas Quick and others of the New

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Only specialists, or those between the ages of forty-five and fifty-five whose experience fits them especially for military duty, will be called to the armed forces.

Women physicians are not commissioned in the military service. Certain of the government agencies—the Office of Civilian Defense; Industrial, State, and Public health agencies—will both need and utilize the services of women. As the need develops they should be encouraged to take on such additional duties as would make available for military service physically fit male physicians.

Part-time Service.—Individuals may not be considered essential who have part-time participation on a Health Department staff, in teaching, or in other capacities; but total time spent in these capacities would identify them as being essential. Wherever possible, persons over forty-five or those disqualified for military service should be encouraged to take on such part-time positions as will assist in releasing others for military service.

These are, in essential, the formal rules governing the processing of medical men whose status comes before our Committee.

The even flow of doctors through the medical schools into the internships and then into the armed forces has been established. Only when individual physicians, either through apathy, ignorance, or unwillingness, fail to conform with published regulations does individual hardship develop, and this, at times, the Committee is able to mitigate.

It would take this Committee too far afield to detail all the pertinent questions with which we are continuously employed. There are thousands of individual questions. All have had attention.

This Committee has no recommendations at this time. It wants to report its deep indebtedness to Dr. Peter Irving, whose continuing work with us has made our activity possible. Had he not taken on this work, some full-time executive secretary would have become a necessity. The correspondence has been handled by Miss La Porte of the office force. This young woman, handling much detail without regard to long hours, has been a faithful worker in our ranks. She deserves our sincere thanks.

Finally, the thanks and appreciation of the Committee are given to the secretaries and the chairmen of the component Medical Preparedness committees of the county societies. The cooperation has been splendid.

There is being established a National Roster of Physicians by the Washington Headquarters of the Selective Service. The application blanks are now pouring into state headquarters. This roster of physicians and dentists is to be used to give medical care to *rejected registrants* with remedial physical defects. The rehabilitation program has not yet been put into effect in this state. We shall have considerable concern with the manner in which this program proceeds. In the interest of completeness, it needs inclusion in this report. It comes within the framework of our activities if it will add man power to our armed forces. If the program, on the other hand, is a service to procure medical care to the population generally, this Committee has no legitimate concern with it, and the projected activity will

fall into other hands for its supervision and control.

The chairman of the Committee has not dilated upon his visits to county societies and his attendance at numerous conferences—in New York City, in Albany, in Chicago, and in Washington—or upon his contacts with agencies of government both in the metropolitan area and in Albany. These conferences were necessary in the interest of the physicians of the state.

PART IX

Workmen's Compensation

The Council Committee on Workmen's Compensation, Dr. Clarence G. Bandler, New York, *chairman*, Dr. Joseph C. O'Gorman, Buffalo, and Dr. David J. Kaliski, New York City, also director of the Workmen's Compensation Bureau of the Society, has presented the following report which is submitted with approval of the Council:

REPORT

Up to the present time nearly 19,500 physicians have been qualified by the county medical societies' compensation committees throughout the state. Two hundred and ninety-six physicians have been qualified by the New York State Homeopathic Board and about 360 physicians by the compensation board of the Osteopathic Society, making a grand total of 20,000 physicians qualified to practice under the Workmen's Compensation Law. This represents over 90 per cent of the practicing physicians of the state.

The number qualified in each county follows:

Albany, 299; Allegany, 42; Bronx, 2,038; Broome, 217; Cattaraugus, 82; Cayuga, 69; Chautauqua, 109; Chemung, 100; Chenango, 41; Clinton, 47; Columbia, 42; Cortland, 43; Delaware, 52; Dutchess, 152; Erie, 998; Essex, 35; Franklin, 67; Fulton, 67; Genesee, 54; Greene, 43; Herkimer, 58; Jefferson, 108; Kings, 3,580; Lewis, 23; Livingston, 55; Madison, 40; Monroe, 528; Montgomery, 61; New York, 5,081; Nassau, 520; Niagara, 168; Oneida, 234; Onondaga, 409; Ontario, 101; Orange, 159; Orleans, 29; Oswego, 74; Otsego, 66; Putnam, 16; Queens, 1,247; Rensselaer, 131; Richmond, 129; Rockland, 92; Saratoga, 70; Schenectady, 116; Schoharie, 30; Schuyler, 12; Seneca, 27; Steuben, 88; Suffolk, 195; Sullivan, 70; St. Lawrence, 91; Tioga, 39; Tompkins, 70; Ulster, 109; Warren, 57; Washington, 50; Wayne, 67; Westchester, 763; Wyoming, 44; and Yates, 27.

Character of Medical Care.—Under Section 13-b of the Workmen's Compensation Law statutory authority is given to the compensation boards to recommend physicians for authorization. It should be noted that the authority under the Law indicates that the Medical Society shall specify the *character* of the medical care which a physician is qualified and authorized to render. This may be interpreted as meaning that it is within the power of the compensation boards, subject of course to review by the Industrial Council, to indicate the scope and range of a physician's practice. It was the intent of the Law to place upon the medical societies this

York Roentgenological Society, we are greatly indebted. Mr. Cahal of the American Association of Radiologists is included. To the Woman's Auxiliary is due our thanks for their general aid and for the wonderful service of their legislative chairman, Mrs. Madden of Albany, who has visited many of the District Branches and explained legislative procedures and the meaning of the bills. The officers, the Council, and various chairmen have met with us on several occasions and given to us their valuable opinions and advice.

PART VIII

Medical Preparedness

The Council transmits with approval the following report of its Committee on Medical Preparedness, which is as follows:

Samuel J. Kopetzky, M.D., *Chairman*..... New York
Edward T. Wentworth, M.D..... Rochester
Louis H. Bauer, M.D..... Hempstead

REPORT

This Committee, set up by the Council during the previous year, when the nation's slogan was "Preparedness," has functioned with the same chairman and personnel ever since. It early established working relationships with, and encouraged the establishment of, medical preparedness committees in all the component county societies.

The Mailer Legislative Committee on Health Preparedness of the state was functioning for the purpose of coordinating all the medical and ancillary forces in one effort to prepare the State of New York for defense. Your Committee on Medical Preparedness associated itself with this state agency in a mutually cooperative effort. This has continued.

Thereafter ensued the passage of the Selective Service Law. Under its provisions, and under authority of Governor Lehman, this Committee, after clearing the names of such medical personnel, nominated to the Governor for appointment by the President of the United States all the examining physicians of two hundred local boards in upstate New York, and two hundred and fifty local boards in the New York City area. In addition, names of physicians were nominated to the Governor for appointment by him to all the Medical Advisory Boards of the state. Finally, at the request of the Governor the names of specially selected physicians were forwarded to serve him as members on Appeal Boards of the state.

The Surgeon of the Second Corps Area turned to this Committee to furnish the medical section of the Recruiting Office of this military area with the names of physicians, in various specialist categories, to serve as specialists on the various Second Corps Area Army Induction Examining Teams.

To accomplish the integrated medical service there was needed rapid, considered action. Every component part of the Medical Preparedness Committee functioned adequately and efficiently, and the Medical Section of the Selective Service Law has had compliments and approval from all authorities concerned.

Then came the War. The Mailer Commission

took on added functions in an all-out effort to win the war. The Medical Preparedness Committee also intensified its activity. The work has been exacting and has required daily attention. It necessitated a large correspondence. The files which had been collected in cataloging the medical profession of the state have been a valuable aid in estimating the medical men of the state.

The armed forces of the nation, the civilian defense service, and many other governmental medical services require doctors. In the effort to spread the available medical talent where it may be most needed, there has been set up, by Presidential Executive Order, a Procurement and Assignment Service to accomplish this purpose. Your chairman of this Committee has been named as the New York State Chairman for Medicine. Dr. Arthur W. Booth, of Elmira, was designated as the General Chairman of the Second Corps Area. He correlates the activities of the state chairmen for medicine—Dentistry, Veterinary Medicine, Education, Hospitals, etc.—for the states of New York, New Jersey, and Delaware. This constitutes the entire setup with which this Committee functions. The organization of the Procurement and Assignment Service is in process of being further organized. Clerical help has not yet been supplied. This was to be furnished from the Regional Social Security Board. There is full realization that this service will shortly be properly provided for. In the meantime, the Medical Society of the State of New York is carrying the financial burden of supplying clerical help, costs of postage, and telegrams.

The above constitutes the machinery within the framework of which we function.

Our aim now is to further the war effort. To this end we are constantly on guard to conserve medical man power, to see to it that physicians are not inducted into the Army as soldiers but are deferred by Selective Service boards until they are commissioned as medical officers, or held as unavailable for military duty and assigned to duty in some other federal governmental agency. Rules of procedure in processing these medical men have been published, and should be better known.

Under Forty-five Years of Age.—The Selective Service Act makes all men under forty-five available for military service. Procurement and Assignment headquarters suggests, therefore, that all men *below* the age of forty-five should be, in the main, listed as available. This, of course, cannot be adhered to strictly. The desirability of establishing the necessity of deferment from military service rests upon the individual and upon *his* employing agency.

In case military demands require the assistance of any man under the age of forty-five and he is considered essential in his community, an attempt should be made, if possible, to arrange for a replacement. Those classified as essential in their communities should include predominantly physicians under forty-five years of age who are physically disqualified for military service, women physicians, and research assistants.

Above Forty-five Years of Age.—The majority of persons considered essential in the community should belong to this age group.

does not strictly limit his practice to a specialty or where he has not yet had sufficient experience, although well trained, to be granted the full specialist's or consultant's rating. However, even the XA or XB, etc., rating is not given unless the physician can establish the fact that he is qualified in his special branch of medicine by reason of education, training, postgraduate education, and hospital experience.

In other words the XA physician is quite capable of performing the average operation apt to present itself in Workmen's Compensation practice, and the fee for such operation should in no wise be less than that given to the fully qualified specialist, especially as the fee schedule is a minimum one. Furthermore, in various parts of the state physicians, though fully qualified and often in charge of hospital services, may not confine themselves exclusively to the specialty. Where such physicians are recognized in the community as fully qualified and are the recipients of referred work in private practice they should be regarded as the equal of the full specialist with the "S" rating, and the fees paid for their services should be in no wise less than those paid to specialists. This is the only way that high quality of medical care can be assured the injured workmen. In the larger communities and especially in New York City there are fewer men in this category; more men confine themselves exclusively to the specialties. Hence, the rule was made purely on practical grounds that consultative work where sufficient fully qualified specialists are available should be as far as possible confined to physicians with the "S" rating; but here, too, it would seem only fair that physicians who have passed the test of our boards and been deemed qualified in the surgical and other specialties be permitted to accept certain operative referred work under certain conditions; that is, with the approval of the compensation boards which have qualified them. A hernia operation is indeed within the scope of practice of, e.g., an XA man and, if he is deemed to be qualified to operate on his own patient, he should be qualified to operate on a referred case. His opinion or testimony on a difficult controverted medical matter may not be the equal of that of the more experienced fully graded specialist, and this should be taken into consideration by the referees and the Industrial Board. Aside from the question of expert testimony the complexities of the X and S rating should offer no great difficulty in view of the fact that every physician agrees when he becomes authorized to limit his professional activities to such medical care as his experience and medical training qualify him to render. Furthermore, there are provisions in the law which enable an employer or carrier to transfer a patient from a physician who is deemed unqualified to treat a particular case. The medical societies when appealed to will not hesitate to give an opinion concerning a physician's qualifications for a particular procedure.

Workmen's Compensation Code Letters.—About one year ago the symbol "M-17; all others" was dropped as it did not represent an entity and was superfluous. Your committee now has under consideration the establishment of an additional subspecialty—thoracic surgery (M-17)—and is drawing up a schedule of standards

for the qualification of physicians in this field which will shortly be submitted to the county societies' Workmen's Compensation Boards for their guidance.

Arbitrations.—According to the provisions of Section 13-g, of the Workmen's Compensation Law, an employer or insurance carrier is entitled to arbitration if he objects to a physician's bill within thirty days of its submission. The Law provides that an agreement may be reached between the parties as to the value of medical aid and in the event that no such agreement can be reached after a bill has been submitted, the value of the medical aid rendered shall be decided by an arbitration committee as provided in this section. It was not intended, in our opinion, that the opportunity provided to agree upon the value of medical services should be used as a means of coercion or intimidation, or evasion of the law. The Workmen's Compensation Law provides that a physician may not, in any instance, charge less than the minimum fees in the schedule. And an agreement to accept less than the minimum fees would be tantamount to a violation of the Law and grounds for removal of the offending physician from the panel. The objection to a medical bill, however, may be on the grounds of excessive or too frequent treatments or to treatments for a condition not related to the accident in which event especially in protracted cases an amicable and ethical settlement is possible. In short cases, or even in protracted cases, the routine attempts at deductions from bills except on valid grounds should under no circumstances be countenanced by physicians, and arbitration should be demanded. Any attempts at coercion or intimidation should be reported at once to this Bureau. I believe we have the support of the insurance companies organization in bringing to light any effort to abuse the privilege of settlement or arbitration and to correct the condition. It is largely within the province of practicing physicians to put a stop to any evils or abuses that may exist. Generally speaking, physicians are mindful of the necessity of keeping their bills within reasonable bounds, for the cost of medical care ultimately is borne by the public and the consumer. Physicians should facilitate the payment of their bills by employers or insurance carriers by prompt and complete reporting of cases, as required by law; by cooperation with the insurance carriers medical examiners in the course of treatment and by frequent progress reports, especially in protracted cases; and by observance of the provisions of Section 13-a (5) in regard to the necessity for authorization especially for continued physical therapy. Frequent bulletins on this subject have been issued, and physicians should by this time be fully familiar with procedure. On the other hand, a great responsibility rests upon the employer and insurance carrier, which he does not always fully carry out, to avail himself of the provisions of the Law concerning the examination of claimants under medical care and in providing the attending physician with reports of medical examinations. Physicians should be vigilant in demanding such reports, especially where the carrier makes a request for the cessation of treatment.

Arbitration Statistics.—During the calendar year 1941, a total of \$84,048.78 in medical bills

responsibility in order to assure the injured workman proper medical care by restricting the practice of any physician under the Law to his actual qualifications as determined by the physicians on the compensation boards. The exigencies of the situation which brought about the amendment to the Law in 1935 required a limitation on the scope of a physician's practice so as to improve the quality of medical care rendered to injured and sick workmen and restore them to their work promptly and with as little disability as possible.

Qualifications.—It has been the aim of your Committee and the Director of the Bureau to carry out our functions in respect to the qualification of physicians in such a manner that the intent of the Law be accomplished and that the rating of physicians, either in general practice or in the specialties, would truly indicate their professional qualifications. Compensation committees and boards have now had over six years' experience. After an initial period of uncertainty when certain committees throughout the state gave a multiplicity of symbols to general practitioners, there has been a gradual revision and simplification of code letters. This has not been completed in all counties despite numerous communications from this office explaining the rationale of physicians and the need of simplification of procedure. We strongly urge that the recommendations of this Bureau concerning the code letters for general practitioners be carried out and that special qualifications to general practitioners be granted only where in the opinion of the board such practitioners are recognized by reason of training, postgraduate education, and hospital or dispensary experience as possessing special qualifications in a given field.

It goes without saying that such special qualifications can be given in only one special field and under unusual circumstances in perhaps two or three closely related fields. The coding of *specialists* should proceed using as a guide the standards of qualifications recommended by this committee with such modifications as may be indicated in any given county in accordance with the nature of the local practice. It is further recommended that in the larger cities advisory boards of specialists be set up to serve as advisory to the compensation committees in passing on the qualifications of applicants for the specialist's rating. Where there are insufficient specialists available to constitute a board, it has been recommended that the compensation board itself consist of specialists in the various fields in addition to general practitioners or that such specialists be available in an advisory capacity to the compensation committee or board in evaluating the credentials of applicants for specialist's rating. Where general practitioners apply for special qualification in addition to the general practice rating, these applicants should also be reviewed by the special advisory boards.

It is recommended that the compensation committees proceed with caution in granting limited or full specialist's rating. It should be borne in mind that once a specialist's rating is given the holder thereof is not only entitled to act as consultant, but his testimony before the Department of Labor carries great weight. Also it should be borne in mind that the holder of such a rating pits his opinion against that of the most

highly qualified men in the profession. Wherever there is a doubt as to a physician's credentials, especially in the case of physicians trained out of the state, every effort should be made to verify the credentials; and for physicians educated and trained outside of the United States, especially in the warring countries, it may be impossible to verify the applicant's credentials. It is not unfair to evaluate such applicants' qualifications on the basis of their actual practice in hospital and dispensary positions in their own community. Where a board of committee is in doubt it may require the applicant for a special rating to perform one or more major procedures under the scrutiny of a committee appointed by the board for this purpose. It is also reasonable to ask of any physician that following his internship and residency he have a number of years of experience in actual practice before granting him a full specialist's rating.

Attention is drawn to the x-ray examinations conducted by the State Medical Society at the request of county societies for physicians desiring a rating in radiology or radiation therapy. During the past year seven examinations were held in the metropolitan area for counties in that area; 11 physicians passed and 14 physicians failed. Unless a physician has had adequate training in this specialty and possesses such qualifications as would entitle him to obtain the diploma of the American Board of Radiology or possesses its diploma, he should be examined especially if he is not on the staff of an accredited hospital as roentgenologist. Special ratings in radiology should not be given to any physician or a specialist without full evidence of qualification in the entire field. The mere possession of x-ray apparatus does not qualify a physician to render an opinion on a radiological film. Furthermore, specialists in other fields do not require special x-ray ratings as they are entitled to make x-ray examinations in their own field. A special rating in radiology should not be given unless the applicant is fully qualified in the general field of radiology, with special reference to traumatic lesions of the various parts of the body.

Limited Specialty Qualifications.—In our report of last year we wrote at length on the question of the qualification of physicians with special reference to physicians with limited specialty qualifications. Inasmuch as the Fee Schedule carries fees for general practitioners and specialists under the heading of *consultations and consultant care* the belief has grown up that such specialist's fees should be paid only to physicians having full specialist's rating. However, there is provided in the Fee Schedule no fee other than the general practitioner's fee which can apply where services are rendered by a qualified man who does not have a specialist's rating, for one reason or another.

Under the provisions of Section 13-b-2 the Medical Society is given the power to rate a physician in accordance with his qualifications. It may define the character of medical care which the physician is authorized to render under the Workmen's Compensation Law. It has been the practice in recent years for the Workmen's Compensation Boards to give limited specialty ratings such as XA, XB, XE, etc., for two reasons: Where the physician

nothing of a proper scrutiny of the record of the case. It is the opinion of this Committee that an opinion concerning the necessity for, or advisability of, treatments should in no instance rest upon the mere dictum of a single examiner. It is strongly recommended that there be a change in this procedure. Wherever possible under present conditions no opinion should be given in the absence of full and complete data furnished by the attending physician. He should, furthermore, be notified in advance by the employer or insurance carrier that this issue will be raised at the time of the hearing or examination. Wherever possible the attending physician's presence should be required if he has not in advance agreed that treatment may be stopped or if the claimant himself insists upon further treatment. The ultimate solution of this difficult and vexing problem will depend upon the creation of boards of experts employed by the Department of Labor on a full- or part-time basis, preferably the latter. They should be advisory to the referees and the Industrial Board on questions of treatment and concerning other problems related to the adjudication of the claim from a medical standpoint. These recommendations were originally made by the Medical Society of the State of New York to the commission appointed by Governor Lehman in 1932 to study and report on the medical administration of the Workmen's Compensation Law.

Section 13(d).—Under Section 13(d) the Industrial Board or referee upon the recommendation of the chief medical examiner of the Division of Workmen's Compensation of the Department of Labor, when hearing a claim for compensation, may require examination of any claimant by a physician especially qualified with respect to the diagnosis or treatment of the disability for which compensation is claimed and may require a report from such physician on the diagnosis, the causal relationship between the alleged injury and treatment, and the such claimant.

These so-called "impartial specialists" are designated by the Commissioner from a panel of especially qualified physician compensation boards of the . . . cal societies. These lists may be added to from time to time if the Commissioner requires additional names. The employer or his insurance carrier pays for such examination in an amount set by the Industrial Commissioner.

It was hoped when this addition to the Workmen's Compensation Law was made in 1935 that impartial experts would frequently be called upon by the Department of Labor to decide difficult medical problems confronting the referees and the Industrial Board. Experience proved, however, that in spite of the large number of controverted cases before the Department such impartial examinations have been held relatively infrequently. Rarely have more than 300 such examinations been held in the entire state in any one year in all specialties.

When the revision of the Law was studied in 1932, it was the opinion of the State Medical Society Committee that boards of experts should be set up by the Department of Labor in the various specialties, either on a full-time or part-time basis, to consider medical controversies and act as advisory to the referees on the prob-

lems presented involving causal relationship, degree of disability, necessity for medical treatment, and other medical questions involving industrial accidents and diseases. Instead of boards of experts, the above panel of "impartial experts" was provided for in the Law, and in our opinion this procedure has not added materially to the effectiveness with which claims are settled by the Department of Labor. Furthermore, in recent years the ordinary medical examiners of the Department of Labor have been asked on numerous occasions to decide the question of the necessity for further treatment of a claimant, a task for which they are not generally fitted either by training or experience. Furthermore, owing to the limitations of time and space, they are not able adequately to review the history of the case and make an adequate survey of the problem presented and render an opinion that can do justice to all parties in interest.

Your Director was asked to serve as a member of a subcommittee on Workmen's Compensation of The New York Academy of Medicine which considered for seven months the operation of the Workmen's Compensation system with particular reference to the adjudication of claims for disability. It was the opinion of this subcommittee that the Academy call to the attention of the Department of Labor the desirability of appointing boards of experts in various specialties to pass upon the controversial medical problems. The committee found that under the present system the referees of the Department of Labor are guided in their decisions by the medical opinions of the physicians employed on a full-time basis in the Department. Difficult medical problems may also be decided by the so-called impartial specialists if their services are requested by a referee or the chief medical examiner of the Department. It was the opinion of the Committee that such expert advice could better be given by groups of impartial experts, one group for each specialty, and that if such groups existed more cases would be referred to them than at present are referred to the impartial specialists. The establishment of these special boards would enable thoroughly qualified specialists to become better trained in the handling of compensation cases and become more familiar with the questions at issue under the Workmen's Compensation Law. The referees would have some final authoritative source of medical opinion to which to turn and, although the referee would have the final word, the difficult medical problems would be settled more frequently by medical authority and less often by lay judgment. Once these boards had established a reputation for competence and impartiality, they would tend to minimize controversies and thus effect a saving in time and money to all parties concerned. The existence of these boards would also tend to raise the level of medical testimony before the referees, since such testimony would be evaluated by well-qualified experts.

It has been stated that the Industrial Commissioner has for the past three years attempted to get a provision in the budget to provide for boards in neurology and orthopaedics, but so far this has been unsuccessful. Although it would seem that under the provisions of 13(d) there is ample authority to set up these boards

was arbitrated in the metropolitan area for the counties of New York, Kings, Bronx, Queens, Suffolk, Westchester, and Nassau, in which the amount in dispute was \$78,390.43. Eighty-seven arbitration sessions were held and 773 bills were arbitrated. Awards were made in all but 50 cases, and in most of these prior bills had been paid. Three hundred and twelve bills were settled after the bills were scheduled for arbitration. The awards made for the six larger counties varied between 62 and 53 per cent of the amount in dispute. This included bills in which the full amount was awarded and those in which no award was made. For the upstate region twelve arbitration calendars were held. The total amount of the bills was \$10,993.50 of which \$7,599.50 was in dispute. The amount awarded was 54 per cent of the amount in dispute. Seventy-five bills in all were arbitrated. No awards were made in twelve of these. In 49 cases bills scheduled for arbitration were settled without a hearing. The percentage of awards against the amount in dispute varied from 42 to 94 per cent. With the exception of one calendar in the upstate area the percentage of awards closely followed those made in the metropolitan area. Twenty-nine counties in all were involved.

Attempts have been made continuously to improve the arbitration procedure and to narrow down the issue to the actual evaluation of medical services in each particular instance. A great deal depends upon the physicians selected as arbitrators in the proper and orderly carrying out of this procedure. Such physicians should be strictly neutral and not swayed by personal interests either in the physician whose bills are being arbitrated or in the employer or carrier defending the action. Each bill is an entity and should be decided strictly on its merits. While the rules of legal evidence are not strictly followed, irrelevant issues should be avoided. The arbitration procedure should not degenerate into a trial of the physician for violation of the provisions of the Workmen's Compensation Law which require the attention or action of the compensation committee of the county society. Physicians selected as arbitrators should be thoroughly familiar with the Law as well as the rules and regulations of the Department of Labor governing compensation practice. They should also be familiar with the Fee Schedule and be aware of the fact that it is a minimal one to which the practitioner need not be confined in the event that a fee higher than the minimum is justified. Although, as was stated above, the rules of evidence are not strictly adhered to, unconfirmed statements concerning action taken by the Department of Labor or by the medical examiners of this Department should not be accepted. If there is any question about the compensability of the case or the liability of the employer or insurance carrier the case should be withdrawn from arbitration until the issue is settled by the Department of Labor. Arbitrators should, under no circumstances, permit the introduction of irrelevant evidence and should attempt to carry out the spirit, as well as the letter, of the Law to the end that justice and equity may be served. It is becoming increasingly apparent that the grounds for objection to a medical bill should be more specifically stated by the insurance carrier or employer in the ob-

jection form; and so far as possible the arbitrators should not generally permit, or themselves raise, issues not raised by the objector, bearing in mind that the purpose of arbitration is to arrive at an equitable decision concerning the value of the services rendered by the attending physician in accordance with the nature of the injury sustained or the illness under treatment, and the medical services rendered. A physician as an arbitrator must under no circumstances become an advocate.

It is our opinion that there should be present at each arbitration proceeding, either as arbitrator or observer, a representative of the Compensation Committee or Board who is thoroughly familiar with all phases of arbitration and of the rules and regulations of the Department of Labor, as well as of the Workmen's Compensation Law.

Administrative Procedures—Department of Labor.—An important change in procedure has been adopted by the Department of Labor in respect to reports issued by the medical examiners of the Department. Heretofore, a typewritten copy of the medical report was given to the claimant, or to his representative and, even though it contained important information to the attending physician, it frequently was not brought to his attention. For a number of years we have been attempting to correct this and recommend that a copy of all such reports be mailed to the attending physician. Owing to the lack of personnel in the Department this was not deemed feasible but in December, 1941, we were notified by the Deputy Industrial Commissioner, Mr. Michael Murphy, who has had this matter under consideration, that in the future the Department will print prominently on all such reports the words, "To The CLAIMANT: Show This Report to Your Doctor." Physicians should be on the alert and request such reports from claimants after hearings and medical examinations at the Department of Labor. These reports should be retained as part of the physician's record. Where the report contains a recommendation concerning medical treatment with which the physician does not agree, he should in writing notify both the employer or insurance carrier and the Department of Labor of his opinion and recommend that the patient demand another hearing, to which the attending physician may be subpoenaed to appear by the claimant or, if he cannot appear, provide the claimant with the necessary factual data on which his opinion as to medical treatment is based.

This brings up the question as to the authority or advisability of medical examiners of the Department of Labor expressing an opinion as to the advisability of treatment being stopped or continued or the nature of the treatment to be rendered. A decision is often difficult and may require an opinion from a mature physician or specialist. It is questionable whether every examiner of the Department of Labor is qualified to express an opinion as the result of his examination or based upon his qualifications. Furthermore, the increased number of cases resulting from the enlargement of industrial establishments and increased industrial activity precludes, in most instances, the possibility of a complete and adequate examination of the patient, to say

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would ascertain at the time of the closing of the case whether a bill for medical care was outstanding or payable, thereby enabling the carrier at the time to make such objection or controversy as is permitted under the provisions of the law.

Legislative.—Again this year, bills have been introduced in the Legislature to permit the admission of nonemergent cases requiring hospital treatment to municipal hospitals. Occasionally, voluntary and proprietary hospitals refuse admission unless authorization for hospital expense is given in advance of admission. This usually involves cases under prolonged treatment and in which the case has been closed and liability may have terminated. In any event there may be a controversy over the liability of the employer or carrier. Although the physician is willing to take a chance on his fee, the hospital often refuses admission unless the hospital bill is authorized. Many hospitals are willing to admit such claimants to their wards but not to their private pavilions; in which event the free choice principle may become nonoperative if the patient's physician is not connected with regular staff of such hospital.

There is at present in the metropolitan area a committee of hospital directors which is attempting to solve this problem and obtain hospitalization for such cases as may be denied admission. In practically every instance your Director has succeeded in obtaining admission when appealed to either by the Labor Department or by the physician in charge. Therefore, it does not seem necessary to make any change in the Law at this time. Such a change would involve opening up municipal hospitals to non-emergent cases where the employer refuses authorization. In many such cases compensability is ultimately established. The injured workman is entitled to semiprivate care and should not become a free ward patient. Furthermore, the passage of such a bill would in a large measure nullify the free choice principle.

C-2 Forms.—Every accident must be reported promptly by the employer on a C-2 form. Employers often are negligent or tardy in reporting, and in certain sections of the state physicians have filled out C-2 reports and submitted them to the employer for signature and filing. The Labor Department has rendered an opinion in which it holds that this practice is improper and physicians have been so instructed. The physician is required to fill out only C-104, C-4, C-5, C-14, and C-27 reports, as indicated. The employer must fulfill his own responsibilities.

Duties and Responsibilities of Local County Medical Society Workmen's Compensation Boards or Committees.—In the larger counties where full- or part-time executives are appointed and where the Workmen's Compensation Committees have adequate secretarial help, they serve as intermediaries between practicing physicians and employers or insurance carriers in the adjudication of disputes or misunderstandings over medical bills and other matters concerning the administration of the Workmen's Compensation Law. It is recommended that this procedure be adopted wherever possible by all of the county society compensation boards. Employers and insurance carriers should be encouraged

to bring their problems and difficulties to the Society, thus establishing better relationships between the doctor and the employer or carrier. Many disputes over the treatment of patients and the rendering of bills could be thus eliminated. Just as the physician should be encouraged to seek the advice and guidance of his county medical society workmen's compensation board so the insurance carrier and employer should likewise be encouraged to work in closer relationship with the county society compensation boards. The office of the Director of Workmen's Compensation is at all times available in this work.

Insurance Carriers Claim Departments.

The commissions appointed by various governors of this state to study the administration of the Workmen's Compensation Law have in every instance recommended that there be a separation of the medical and claims departments of insurance carriers. In actual practice this has not been achieved and in the opinion of your Director is mainly responsible for some of the difficulties in administration and evils that still exist in the functioning of the Workmen's Compensation Law. The chief purpose of the Law is to provide adequate medical care to the injured workman, to compensate him for time lost, to rehabilitate him, and to get him back to work as quickly as possible. The cost of medical care should be as reasonable as compatible with high quality medical service. Theoretically, all insurance carriers agree on this principle, but in actual practice there often appears to be a tendency to consider "expenses" of prime importance and the patient and his welfare of minor importance. It is imperative that employers and insurance carriers have expert medical advice available at all times in order to protect their interests. Under the law they are given certain responsibilities and privileges, and most of these when related to medical care should be exercised by properly qualified physicians. Unfortunately, most of the contacts between physicians and insurance carriers are with laymen and not with physicians. The layman often has a smattering of medical knowledge and sets himself up as a judge of both the quality and quantity of medical care necessary. Physicians are frequently annoyed, to put it mildly, by the attempts of laymen to intrude themselves into the medical problem presented. This meddling involves not only the question of medical expense but too often the actual medical conduct of the case.

It goes without saying that the interests of both insurance carrier and doctor would be greatly advanced if thoroughly qualified and respected physicians were employed by insurance carriers to make contact with the medical profession. Physicians are ready to cooperate fully with employers and insurance carriers and this contact should be established as soon as an injury is reported. The frequent practice of some insurance carriers representatives objecting to medical bills or continuation of treatment without even having had a medical examination of the claimant during the early stages of the patient's illness cannot be too strongly condemned. It is hoped that steps will be taken by carriers to assure the separation of the medical and claims division of all insurance carriers.

from lists of physicians deemed duly qualified by the medical societies, so far the Commissioner has not been able to bring about their appointment. Inasmuch as the costs of this service would have to be borne by the insurance carriers, there undoubtedly would be some opposition or delay. For this reason it would seem better to recommend that the law be amended to provide for the setting up of full-time or part-time boards in the various specialties, but especially in orthopaedic surgery and neurology to begin with, and that provisions be made for salaries or emoluments. The opinion of these boards should be final as to medical facts and advisory to the Industrial Board and the referees. These boards should be appointed by the Industrial Commissioner on the recommendation of the Medical Society of the State of New York, or by its subsidiary compensation boards.

Department of Labor Procedure.—This brings us to the question of the adequacy of procedure and personnel in the Department of Labor. There frequently arise situations in respect to medical care which can only be resolved by prompt hearing and examination before the Department of Labor. Under present conditions, although we feel that such speeding up of hearings would redound to the advantage of the injured workman and in controverted cases enable him to receive medical care which, because of the nature of the controversy, must often be postponed, the lack of adequate personnel in the Department of Labor now renders this impossible. We have been informed by the Director of the Division of Workmen's Compensation that the volume of cases, open and pending, before the Department in New York City alone increased from 46,447 at the end of 1940 to 54,567 on December 31, 1941. This increase of a little over 8,000 during the year is equivalent to the work normally accomplished by two full-time referees. A further illustration is the fact that during the year 1940 approximately 1,348,000 papers were received, and during the last year this had increased to approximately 1,542,000. These papers of which there are no cases indexed are filed in the so-called "no-claim file." The amount of correspondence, reports of accidents, etc., in these files has grown tremendously. When a case folder is assembled, it is necessary to search this no-claim file in order to be certain that all papers previously received by the Department are included in the case folder. As the no-claim file has expanded in volume, the searching of each individual case requires more time; consequently, it is necessary to divert much of the time of higher salaried examiners to the elementary function of filing and searching these papers, which should be done by other and lower paid individuals. Medical examinations in the New York office have increased from 67,959 for the year 1940 to 71,406 for the year 1941, an increase of nearly 3,500 medical examinations. I believe these figures indicate the critical need for an increased personnel in the Department of Labor if the interests of the injured workmen are to be properly conserved, to say nothing of the advantage that would accrue to the medical profession through more prompt examinations. We strongly recommend, despite the need for economy in government, that the personnel of the

Department of Labor be increased. Increased efficiency through more prompt handling of claims would unquestionably, in our opinion, more than offset the cost to the insurance organizations and employers concerned in the way of more prompt hearings and prompt payment of claims and closing of cases.

Industrial Board.—Under date of March 3, 1941, a communication was issued by the Director of Workmen's Compensation to assistant commissioners and referees advising them that on February 14, 1941, the Board adopted a resolution to the effect that the referees be instructed in cases in which disability is less than seven days they should make the following findings: "No compensation due—disability less than 7 days—case closed." The reason for the adoption of this resolution was the fact that the Industrial Board had noticed that in a number of cases the referees used the phrase, "disallowed—disability less than seven days." The referees have closed these cases or disallowed them on the ground that no wages were lost. In the opinion of the Industrial Board this was not a proper action because under the provisions of Section 25 an award must be made to reimburse the employer if such reimbursement is requested either by the employer or the claimant. It was brought to the attention of Mr. Boyer by your Director that under a recent decision of the Court of Appeals of this state it was the opinion of the Court that compensation should not be restricted or confined in its definition to money compensation alone. The provision of medical care, in the opinion of the Court, was a form of compensation equally, if not more, important to the claimant than compensation for time lost. The Industrial Board has frequently taken advantage of a situation in which an employer or insurance carrier has paid for medical attention in deciding the question of accident, etc. In other respects medical care has not necessarily been looked upon as conterminous with compensation. Though it is true that compensation for medical care is not paid by the claimant but, under the provisions of Section 13, by the employer or insurance carrier, it should be looked upon and, in the opinion of the Court, should be regarded as compensation. Although a claimant may not be entitled to money compensation for time lost because such time lost is not equivalent to the waiting period, he may be entitled to medical care during this period of disability, and a medical compensation bill is incurred which under the provisions of the law is payable by the carrier or employer. It is therefore our opinion, and we recommend, that the referee should be instructed, when making a determination of compensation due, to indicate that medical or hospital expense has been incurred or payable so that there may be no question in the mind of an employer or insurance carrier as to the reason why the case was closed. This is emphasized because in a number of instances insurance carriers have utilized the fact that the Department of Labor has not passed upon the question of medical care, when closing a case, as a basis for refusal to pay for medical care often requiring a reopening of the case at a time when the patient may be no longer available or disinclined to appear after he has resumed his work. If the procedure recommended were adopted, the referee

rests on his contention that he did not authorize such special services or that the circumstances did not require them. Under the present law the Industrial Board has taken the position, and properly so, that it has no power to pass upon such claims or to make awards to physicians in hospitals for such services.

The Industrial Board bases its limitation of power to affix the cost of medical care on the provisions of Section 24 of the Workmen's Compensation Law which reads as follows:

"Cost and Fees. If the court before which any proceedings for compensation or concerning an award of compensation have been brought, under this chapter, determines that such proceedings have not been so brought upon reasonable grounds, it shall assess the cost of the proceedings upon the party who has so brought them. Claims of attorneys and counselors at-law for legal services in connection with any claims arising under this chapter, and claims for services or treatment rendered or supplies furnished pursuant to subdivision (b) of Section 13 of this chapter, shall not be enforceable unless approved by the board. If so approved, such claim or claims shall become a lien upon the compensation awarded, but shall be paid therefrom only in the manner fixed by the board. . . ."

Section 13(b) referred to involves only out-of-state cases.

As properly stated by the Bar Association Committee, proper and willing medical treatment of injured employees is not encouraged if physicians and hospitals are forced to litigation in order to collect their bills. The spirit of the law would be defeated by such litigation. The purpose of the statute would be defeated if liability for medical services or hospital care imposed by law cannot easily be enforced. An amendment is therefore required to eliminate all doubt about the authority and jurisdiction of the Industrial Board over claims for medical services. At the present time the Industrial Board has jurisdiction only where the injury occurred outside of the state [Section 13(b) (2)], or where the employer has failed to provide compensation for his employees (Section 13-g subdivision 4 amended in 1940). According to the Bar Association there seems to be no logical or historical reason for the distinction created by these two exceptions. They should embody the general rule, which was probably the legislative intent when the Law was amended in 1935. It must be remembered that under Section 13-f the physician rendering treatment to a compensation claimant may not accept or collect a fee from the claimant but must have recourse for payment to the employer under the provisions of the Law. In the decision of the Supreme Court in the Szold case the Court held that recourse to the employer for payment of medical bills shall be had only under the statute. Despite this the Industrial Board has always claimed that it has no jurisdiction under the provisions of the Law, as amended in 1935, to fix the cost of medical care except in out-of-state cases and in accordance with the 1940 amendment where the employer failed to carry insurance. It has been held that a physician is not a party in interest under the statute by reason of his claim for medical services, that medical expenses are not compensation, and

that the Industrial Board has no authority to make an award to other than an injured employee, therefore, making it necessary for the physician to sue at law in order to collect his bill. In order to insure beyond doubt realization of the essential object of those parts of the Workmen's Compensation Law discussed above, it is necessary to amend the Law. Legislative authority to do so is clear.

Therefore, the following amendment to Section 13-a(5) and Section 13-g(4) is recommended:

"Section 13-a(5). No claim for specialist consultations, surgical operations, or physiotherapeutic procedures costing more than \$25 shall be valid and enforceable, as against such employer, unless such special services shall have been authorized by the employer or by the commissioner, or unless such authorization shall have been unreasonably withheld, or unless such special services are required in an emergency. No claim for x-ray examinations or special diagnostic laboratory tests costing more than \$10 shall be valid and enforceable, as against such employer, unless such special services shall have been authorized by the employer or by the commissioner, or unless such authorization shall have been unreasonably withheld, or unless such special services are required in an emergency. Where payment of a claim for such special services is refused on the ground that such special services were not authorized as herein provided, the physician or hospital presenting such claim shall have the right to appeal to an arbitration committee as provided in subdivision two of Section 13-g to determine whether such special services were authorized by the employer or by the commissioner, and if not, whether such authorization was unreasonably withheld or whether such special services were required in an emergency. The amount of any such claim, if disputed, shall also be determined at the request of the physician or hospital presenting such claim, or at the request of the employer or insurance carrier by arbitration in the manner provided in subdivision two of Section 13-g and an award to the physician or hospital in accordance with the decision of the arbitration committee may be able and enforced as provided in said subdivision two of Section 13-g."

Subdivision (4) of Section 13-g is also amended to read as follows:

"(4). The Industrial Board may make an award to the physician or hospital entitled thereto upon a claim presented by such physician or hospital to the employer or to the commissioner for the value of medical services or treatment rendered to an employee, in accordance with the schedules of fees and charges prepared and established under the provisions of Section 13-a of this chapter, irrespective of whether the employer has secured compensation to his employees as required by Section 50 of this chapter or has failed to do so, and a default in the payment of such award may be enforced in the manner provided for the enforcement of compensation awards as set forth in Section 26 of this chapter."

The industrial board shall have full power and authority to determine all questions in relation to the payment of such claims pre-

It is the Board's conviction that greater responsibility should be given to their medical departments, and the physicians employed therein, in regard to medical matters. A closer cooperation between the medical departments of insurance carriers and employers and attending physicians, especially during the acute phases of treatment, would in a large measure do away with many of the disputes which ultimately bring about objections to a physician's bill. In this connection it might also be said that such separation of medical and claims departments, and the providing of properly trained medical examiners by carriers would unquestionably redound to the advantage of the injured workmen and lead to the avoidance of delays in the institution of medical care, especially operative treatment. It is pleasant to report the impression that there has been some improvement in this respect during the past few years, but there is still room for improvement.

Fee for Testimony.—The following resolution was adopted by the Industrial Board of the Department of Labor on June 7, 1940, and promulgated to the medical profession in the fall:

"Resolved, That under the Fee Schedule for attendance of physicians at hearings, adopted by the Industrial Board at its meeting on June 7, 1940, the Board believes that if a physician's appearance for the purpose of testifying at a hearing is required, he shall receive the \$25 or \$10 fee, according to his designation, as provided in the schedule. If at the same session, he is required to testify in another case, whether before the same referee or not, he shall be entitled to receive an additional \$12.50 or \$5.00 fee, according to his designation. If the same physician is required to attend a hearing for the purpose of testifying on the same day, but at the afternoon session, he shall be entitled to receive the larger fee, even though he had appeared at a hearing in the morning session, and an additional \$12.50 or \$5.00 fee, according to his designation, for any additional case in which he may be required to testify at the same session, even though such case may come before the same referee."

This means that if a physician with a specialist's rating testifies in 2 cases in the morning, he will be paid \$25 for the first and \$12.50 for the second at the same session. If he is required to stay over until the afternoon, he will again receive the full fee of \$25 for the first case and \$12.50 for any subsequent cases. The fee for the general practitioner under these circumstances will be \$10 and \$5.00, respectively. Under certain conditions the referees may award a mileage fee if the physician must travel a considerable distance to the hearing place. Where the physician is subpoenaed by the insurance carrier and serves as their witness he should make arrangements with the carrier for a fee for his testimony.

The above applies only to cases injured on and after July 1, 1935.

Amendments.—We have been fortunate in having the support of the Bar Association of the City of New York, through its Committee on Law Reform, in formulating and having introduced into the Legislature a number of bills to

improve the functioning of the Workmen's Compensation Law, especially as it concerns section 13. Section 13-g(1)(2) should be amended so as to give the Industrial Board the power to make awards to physicians in hospitals for medical care and services where the value of such services has been fixed or determined (1) by the submission of a bill which was not objected to within thirty days in compensable cases and (2) where the value of the bill has been determined under the provisions of Section 13-g(1) by arbitration. As the Law now stands, without amendment, unless the employer or carrier pays, the physician or hospital must sue at law at considerable expense and trouble, especially where the bill is small. As was pointed out by Justice Loughran of the Court of Appeals, to force doctors and hospitals to settle and collect their bills "by the varying and uneven result of ordinary litigation would perhaps in the long run impair the grade of medical care secured to those on whose lives and safety the common welfare depends."

In the same decision the Court also said: "The medical care which the employer must furnish is part of the statutory compensation of the workman." The Committee of the Bar declared that the enforcement of such liability for medical care is as properly the function of the Industrial Board as is the enforcement of the employer's liability for monetary compensation.

At the suggestion of your Committee, the Bar Association took up a further amendment to Section 13-a, subdivision 5, which at present reads:

"Section 13-a(5). No claim for specialist consultations, surgical operations, or physiotherapeutic procedures costing more than \$25 shall be valid and enforceable, as against such employer, unless such special services shall have been authorized by the employer or by the commissioner, or unless such authorization shall have been unreasonably withheld, or unless such special services are required in an emergency. No claim for x-ray examinations or special diagnostic laboratory tests costing more than \$10 shall be valid and enforceable, as against such employer, unless such special services shall have been authorized by the employer or by the commissioner, or unless such authorization shall have been unreasonably withheld, or unless such special services are required in an emergency."

The statute as above quoted does not provide for the manner in which questions of fact arising under this section, such as the existence of an emergency or other conditions requiring special medical services, are to be determined or by what tribunal. Therefore, arbitration as under Section 13-g(1) should be provided. Such arbitration is provided where a physician accuses an employer or his agent of improper transfer, Section 13-a(3), and there is no reason why arbitration should not be provided for ascertaining the facts under Section 13-a(5). At the present time physicians or hospitals with claims for special medical services under Section 13-a(5) in excess of \$25 or \$10, respectively, and especially where the employer or carrier claims that physical therapy in excess of \$25 was not authorized, are required to sue at law if the employer

action against such other within the time limited therefor by subdivision one, such failure shall operate as an assignment of the cause of action against such other to the state for the benefit of the state insurance fund, if compensation be payable therefrom, and otherwise to the person, association, corporation, or insurance carrier liable for the payment of such compensation. If such fund, person, association, corporation or carrier, as such an assignee, recover from such other, either by judgment, settlement or otherwise, a sum in excess of the total amount of compensation awarded to such injured employee or his dependents and the expenses for medical treatment paid or for which liability has been incurred by it, together with the reasonable and necessary expenditures incurred in effecting such recovery, it shall forthwith pay to such injured employee or his dependents, as the case may be, two-thirds of such excess, and to the extent of two-thirds of any such excess such recovery shall be deemed for the benefit of such employee or his dependents. When the compensation awarded requires periodical payments the number of which cannot be determined at the time of such award, the Board shall, when the injury or death was caused by the negligence or wrong of another not in the same employ, estimate the probable total amount thereof upon the basis of the survivorship annuitants table of mortality, the remarriage tables of the Dutch Royal Insurance Institution and such facts as it may deem pertinent, and such estimate shall be deemed the amount of the compensation awarded in such cases, for the purpose of computing the amount of such excess recovery, subject to the modification thereof as herein-after provided."

The Bar Association has independently of the above amendments suggested an amendment to Section 13-g, to give to the Industrial Board the power to make an award to a physician or hospital in the event that the employer or carrier has not objected to a doctor's bill within thirty days, thus making the bill due and payable and deeming it to be the fair value of the services rendered. An amendment to Section 13-g(2) also gives to the Industrial Board the power to make an award in accordance with the decision of the arbitration committee in the event that an employer or carrier refused to honor such decision. Whether this second amendment is necessary is doubtful since arbitration awards are deemed to be enforceable under the statute.

The first amendment concerns Section 13-g, subdivisions 1 and 2. The italic sentences are new.

"Section 13-g. Payment of bills for medical care.

(1) Unless within thirty days after a bill has been rendered to the employer by the physician or hospital which has treated an injured employee, such employer shall have notified the commissioner and such physician or hospital in writing that such employer demands an impartial examination of the fairness of the amount claimed by such physician or hospital for his or its services, the right to such an impartial examination shall be deemed to be waived and the amount claimed by such

physician or hospital shall be deemed to be the fair value of the services rendered by him or it, and the Board may make an award to such physician or hospital in the amount claimed by such physician or hospital. A default in the payment of such award may be enforced in the manner provided for the enforcement of compensation awards as set forth in Section 26 of this chapter.

(2) If the parties fail to agree as to the value of medical aid rendered under this chapter such value shall be decided by an arbitration committee consisting of two physicians designated by the president of the medical society of the county in which the claimant resides, and two physicians, also members of the Medical Society of the State of New York, appointed by the employer or carrier. The majority decision of the arbitration committee shall be conclusive upon the parties as to the value of the services rendered. In the event of equal division, the committee shall select a fifth physician, also a member of the Medical Society of the State of New York, whose decision shall be conclusive. If the physician whose charges are being arbitrated is a member in good standing of the New York Osteopathic Society or the New York Homeopathic Society, the members of such arbitration committee to be appointed, similarly, shall be physicians of such organization and the president of such organization shall make the designation provided herein. *The Board may make an award to the physician or hospital for his or its services in accordance with the decision of the arbitration committee as evidenced by a copy of said decision certified by at least three of the members of the arbitration committee and a default in the payment of such award may be enforced in the manner provided for the enforcement of compensation awards as set forth in Section 26 of this chapter.*"

Industrial Health.—Industrial health is assuming greater importance particularly in view of the national defense program. Our Committee on Public Health and Education has created a special study committee to interest itself in industrial health problems. Dr. H. H. Bauckus is chairman, member of this committee is Ver Mitchell, chairman of the Public Health and Education Committee, took part in the Program of the Congress on Industrial Health of the American Medical Association which was held in Chicago on January 13 to 14, 1942.

This committee has under consideration the providing of educational programs in industrial medicine and surgery. It is hoped to attract the attention of the medical profession as a whole to those aspects of industrial practice for which medical leadership and initiative are required. Physicians must be trained to render satisfactory service in industry, and opportunities must be afforded for such instruction for medical and postgraduate students. Conservation of man power is of great importance especially in wartime, and in this program well-trained physicians must play a leading part. Small industry must be served as well as large organizations, the latter being usually well staffed with competent medical advisers, while the smaller often lack the same. There are

sented to it and with respect to the employer's liability for medical treatment and care of his employees.

In any case where the amount claimed has been fixed or determined under subdivision (1) or (2) of this section the award shall be in such amount. In any case where the amount of the claim when presented has not been so fixed or determined and is in dispute the Board shall, at the request of any party, or on its own motion, refer the question of the fairness of the amount claimed to an arbitration committee such as provided in subdivision (2) of this section and the award shall be in the amount determined by such committee.

In cases where the employer has failed to secure compensation to his employees as required by Section 50 of this chapter the payment of the claim of the physician or hospital for medical or surgical services or treatment shall be subordinate to that of the payment of the claim for compensation of the claimant or his beneficiaries."

Section 13-C of the Workmen's Compensation Law reads as follows:

"(c). The liability of an employer for medical treatment as herein provided shall not be affected by the fact that his employee was injured through the fault or negligence of a third party, not in the same employ, *unless and until notice of election to sue or the bringing of suit against such third party*. The employer shall, however, have an additional cause of action against such third party to recover any amounts paid by him for such medical treatment, in like manner as provided in Section 29 of this chapter."

Under this section it has been held that compensation and medical expense are payable until notice of election to sue the third party or a suit against such third party is begun. Section 29 of the Workmen's Compensation Law was amended in 1937 to give employees the right to all compensation benefits regardless of the commencement of third party suit, including medical care. Section 29 provides for the continuation of compensation payments. Monetary payment as well as the benefits of medical care must be regarded since the decision in the Szold case as two parts of the compensation provided for the employee by the compensation law.

In a recent decision of the Appellate Division, Third Department, January 7, 1942, the Court held that subdivision (c) of Section 13 releases the employer from liability for medical expenses after a suit against the third party is begun. It was the opinion of the Court that the 1937 amendment of Section 29 was not sufficient to repeal or annul the limiting effects of Section 13-C.

The Court stated: "Doubtless the problem should receive further legislative clarification, but as the statute now exists we do not think that the provisions of Section 29 have superseded or destroyed the limitations contained in Section 13." The employer is protected by a right of subrogation and a cause of action against the third party. While it was the opinion of the Industrial Board that the Legislative amendment to Section 29 in 1937 superseded the limiting Section 13-c, this view has been superseded by the opinion in the case of *Wolkenstein vs. Lumin-*

art Lampshade Products, Inc., cited above. Therefore, it is recommended that that portion of Section 13-c which limits liability for medical expenses to those services rendered before the commencement of the third party suit be eliminated and that Section 29 be amended so as to provide that the employer or carrier shall have a lien or right of action for medical expenses incurred, as well as for those actually paid, where a third party is responsible for the injury. These amendments follow:

"(c). The liability of an employer for medical treatment as herein provided shall not be affected by the fact that his employee was injured through the fault or negligence of a third party, not in the same employ, but the employer shall have a cause of action against such third party to recover any amounts paid by him for such medical treatment or for *which he has incurred liability under the provisions of this chapter* and such other rights as are provided in Section 29 of this chapter."

This also necessitated an amendment to Section 29 as follows:

"Section 1. Subdivisions 1 and 2 of Section 29 of the Workmen's Compensation are hereby amended as follows:

"1. If an employee entitled to compensation under this chapter be injured or killed by the negligence or wrong of another not in the same employ, such injured employee, or in the case of death, his dependents, need not elect whether to take compensation under this chapter or to pursue his remedy against such other but may take such compensation and at any time either prior thereto or within six months after the awarding of compensation, pursue his remedy against such other subject to the provisions of this section. If such injured employee, or in the case of death, his dependents, take or intend to take compensation under this chapter and desire to bring action against such other, such action must be commenced not later than six months after the awarding of compensation and in any event before the expiration of one year from the date such action accrues. In such case, the state insurance fund, if compensation be payable therefrom, and otherwise the person, association, corporation or insurance carrier liable for the payment of such compensation, as the case may be, shall have a lien on the proceeds of any recovery from such other, whether by judgment, settlement or otherwise, after the deduction of the reasonable and necessary expenditures, including attorney's fees, incurred in effecting such recovery, to the extent of the total amount of compensation awarded under or provided or estimated by this chapter for such case and the expense for medical treatment paid or for which liability has been incurred by it and to such extent such recovery shall be deemed for the benefit of such fund, person, association, corporation, or carrier. Notice of the commencement of such action shall be given thirty days thereafter to the commissioner, the employer and the insurance carrier upon a form prescribed by the commissioner.

"2. If such injured employee, or in case of death, his dependents, has taken compensation under this chapter but has failed to commence

should aid in the interpretation of the occupational relationship.

"In the majority of cases of occupational dermatosis, the following criteria will usually be found to apply:

"(a) The dermatologic diagnosis is a dermatosis in which the role of an occupational causal (major or contributory) factor has at some previous time been established beyond reasonable doubt.

"(b) The person has been working in contact with an agent known to have produced similar changes in the skin.

"(c) The time relationship between exposure to the agent and the onset of the dermatosis is correct for that particular agent and that particular abnormality of the skin.

"(d) The site of the onset of the cutaneous disease and the site of maximum involvement are consistent with the site of maximum exposure.

"(e) The lesions present are consistent with those known to have followed the reputed exposure or trauma.

"(f) The person is employed in an occupation in which similar cases have previously occurred.

"(g) Some of the person's fellow workers using the same agent are known by the examiner to have similar manifestations due to the same cause.

"(h) So far as the examiner can ascertain there has been no exposure outside of occupation which can be implicated.

"(i) If the diagnosis is dermatitis, the following items are important:

"(1) Attacks coming after exposure to an agent, followed by improvement and clearing after cessation of exposure, constitute most convincing evidence of the occupational factor as a cause.

"(2) The results of patch tests performed and interpreted by competent dermatologists corroborate the history and examination in the majority of cases.

As previously indicated, these criteria are difficult of application in certain groups of cases: (a) cases in which there is sensitization, (b) cases in which there is accentuation of existing cutaneous disease by occupational factors, (c) cases in which there are supervening complications of other dermatoses and occupational dermatoses, (d) cases in which much time has elapsed between the development of the dermatosis and the examinations, and (e) cases in which there has been overtreatment.

Increasing Medical Costs.—On December 6, 1941, a confidential inquiry was directed to the chairmen of all compensation boards throughout the state requesting detailed information concerning the cost of all items entering into Workmen's Compensation practice such as the cost of technical help, nursing service, secretarial service, medical and surgical supplies, drugs, instruments, office rental, etc., in order to determine whether we would be justified in asking for a change in the Fee Schedule at this time. Replies have so far been received from twenty-three compensation boards. At the time of going to press we have not yet been able completely to analyze the replies. They seem to indicate a need for an upward revision of the schedule

especially for low cost visits and other items. There again seems to be a universal demand for the elimination of the 5 per cent discount allowed for payment of bills over \$15 within thirty days.

Unions.—The free choice principle is one of the most important and valuable assets of the amended Workmen's Compensation Law. This principle has been affirmed by the highest courts of the land, and we should not lightly permit this principle to be violated and thereby deprive an injured workman of his right to select to treat him a physician in whom he has confidence. The injured workman is amply protected as to the competence of the physician by other provisions of the law limiting a physician's practice to what he is actually qualified to render. The majority of workmen of this state are aware that they may select their own physician. From time to time we have had evidence that employers and insurance carriers have by direct or indirect means attempted to intimidate or coerce claimants to accept medical care at the hands of physicians either directly or indirectly in their employ or pay or under their control. Fortunately, this practice has ceased to a large extent. There are still many injured workmen who apply to their employers for medical care and are satisfied with the physicians recommended. They may on occasions change to a physician of their own choice. In some instances employees still refuse to exercise their right to free choice fearing that they may jeopardize their positions. Nevertheless, on the whole the free choice principle is becoming more firmly established year by year. There has been an increasing tendency on the part of labor organizations to employ physicians on a salary or fee basis to render all sorts of medical attention to members of the labor unions. Some unions have even established clinics, consultation service, and hospitalization for their members. The Department of Labor has recognized the principle that a union may assist its members in the handling of compensation cases, and the Industrial Board has licensed certain representatives to assist union members at hearings of the Department. We have no wish to interfere here or to minimize the importance of union representation in compensation claims. We further have no desire to prevent or interfere with the injured workman seeking the attention of a qualified physician employed by a labor union, provided that the member seeks such services of his own free will. The question arises whether once a claimant has selected his family physician, or some other physician of his own choice, to treat him, he should be required to remain under the supervision of a union physician, or transfer his care to such physician, at the request of some union official, or at the direction of the physician of the union. It is not intended to convey the impression that the practice of coercing union members to receive medical attention at the hands of physicians appointed by unions is universal or even general, but there have been a few instances in which complaints have been received indicating that patients were transferred from the physician of their choice to a physician employed by a labor union and one not preferred by the injured workman. We believe that the patient's right of free choice should be limited only by the provisions of the Workmen's Compensation Law relating to quali-

questions involved concerning free choice of physician for certain types of service involved. Knowledge on the part of the physician of industrial medical work in its various aspects is imperative. The profession generally should be aware of the necessity of keeping workers at work throughout the year, and an effort should be made to reduce the number of days of absence due to illness not the result of accident or occupational disease. Accurate statistics on this phase of lost time are not available. While the blame for such loss of time can hardly be placed on the shoulders of the medical profession, some effort should be made to create closer relationships between management and the profession in order to bring under the physician's care, as promptly as possible, those who are reported ill and absent from work.

First-Aid Stations.—Because of the base increase in defense projects throughout the state, many new plants have arisen and old ones have been expanded. It may be estimated that the number of accidents will increase many fold and occupational diseases will likewise increase in number. In regard to the latter, the importance of expert medical advice in regard to industrial hazards, safety measures, etc., cannot be overestimated if man power is to be conserved. First-aid stations are being created throughout the state, and it is imperative that there be adequate control over these establishments. Under the Workmen's Compensation Law a *medical bureau* cannot be set up without the sanction of the Medical Society Compensation Committee and the payment of a license fee to the state. First-aid stations have absolutely no governmental control. They may or may not be properly equipped and staffed, and the provisions of the Workmen's Compensation Law regarding the reporting of cases may not be carried out. Furthermore, there is no provision whereby the medical societies' compensation committees may inspect such first-aid stations and determine whether they are properly equipped and conducted, and in accordance with the provisions of the Workmen's Compensation Law. In some stations continued medical care may be given, and an unlicensed individual may be assuming the responsibilities of a physician. The danger to the injured workmen of improper medical care is obvious. We strongly recommend that provisions be made in the public health and Workmen's Compensation Laws for the inclusion of first-aid stations.

An additional word may be permissible, drawing attention to occupational diseases that arise in the course of, as the result of, or which are peculiar to, the individual activity in which an employee is engaged. While the more common occupational diseases, and particularly the industrial dermatoses, are well known, there are numerous conditions peculiar to modern industry which are not well known and, hence, are apt to be overlooked by physicians. Attempts should be made to familiarize physicians with the various industrial illnesses and the symptomatology, diagnosis, and treatment of same. The amended C-4 form should be helpful and physicians should avail themselves of the services of the Department of Industrial Hygiene (through the help of Dr. Leonard Greenburg, director) in cases where an employee may be suffering from

symptoms suspicious of poisoning to determine whether a hazard exists at the place of employment.

Industrial Dermatitis.—The importance of industrial dermatitis under the Workmen's Compensation Law cannot be overestimated. The report of the Committee on Industrial Dermatitis of the Section on Dermatology and Syphilology of the American Medical Association published in the February 21, 1942, issue of the *Journal of the American Medical Association* should be studied carefully.

This report is in line with a similar study made by a special committee appointed by the Section on Dermatology of the State Medical Society and working as a subcommittee under our Committee on Workmen's Compensation. In our previous reports to the House, we have stressed the importance of closer cooperation between the medical profession and the insurance carriers and employers, so as to bring about a *modus vivendi* among dermatologists, industrial physicians, and employers which would afford to the employee prompt and efficient diagnosis and treatment for cases of occupational dermatitis and at the same time enable a qualified physician to be paid at least a minimum for a diagnosis in a doubtful or noncompensable case. The arrangement suggested would, we believe, be in the interest of all parties concerned and would, by prompt diagnosis and efficient early treatment, save the employers and carriers considerable money in controverted doubtful cases. Our proposal has been under consideration by the insurance carrier's organization for over a year, and it looks as though we are no nearer a solution of this problem than we ever were, despite what we believe to be a favorable attitude toward our proposals on the part of the insurance carriers.

We are herewith reprinting the criteria for the diagnosis of occupational dermatoses published by the Committee of the American Medical Association:

"Criteria for the Diagnosis of Occupational Dermatoses.—The Committee on Occupational Dermatoses submits this statement of the criteria for the diagnosis of occupational dermatosis with the purpose of improving the proper interpretation of manifestations on the skin resulting from occupational causes. In so doing, the committee realizes fully the inadvisability, as well as the impossibility, of establishing arbitrary standards for determining the causal relationship between the occupational exposure and the abnormal condition of the skin in every individual case.

"The lapse of time between exposure and examination, the inability to obtain an accurate history, the previous treatment, the combination of occupational and nonoccupational cutaneous disease and various other factors prevent the application of any criteria in certain cases. It is also realized that all the suggested criteria will not fit every individual case, that new causal factors will continually be introduced in industrial processes and that new, or at least unusual, manifestations on the skin may be caused by agents in use at the present time. However, a careful weighing of the evidence obtained by detailed history and examination in the light of these standards

are directly concerned with different state departments, and because of the close proximity of the chairman to Albany it is convenient and much more efficient to have personal interviews and thus save other members of the Committee long and often unnecessary trips. During the year reports have been made monthly to the Council and, because these reports are permanent records and in the office of the secretary, this report will include only unfinished business of the Committee and possibly some further information obtained regarding matters already reported.

Disposition of Registration Fees.—The Nassau County Medical Society presented the following resolution to the 1941 House of Delegates, whence it was referred to the Council for study, and thence to the Committee on Public Relations and Economics for study and report.

"WHEREAS, The Medical Practice Act of 1930 provides for the payment by every practicing physician of an annual re-registration fee of \$2; and

"WHEREAS, The medical profession was told at the time that this law was proposed that the purpose of the fee is to provide the educational authorities of the state with funds with which to control the unlawful practice of medicine in the state, with the implied or expressed promise that such fees were to be collected for a period of five years, by which time the problem of the control of unlawful practice of medicine was expected to be solved; and

"WHEREAS, This annual fee has been collected annually since the effective date of the new law, with no indication that it is not considered a permanent tax; and

"WHEREAS, There are no provisions or, at best, inadequate provisions for the care of indigent physicians in New York State; be it *Resolved*, First, that the Nassau County Medical Society requests an accounting of the moneys collected for annual re-registrations since the effective date of the law, with a statement as to how such moneys were expended; and be it further

Resolved, Second, that a sum of money be set aside from this fund to be made available to the indigent physicians of the state; and be it further

Resolved, That a portion of the annual registration be henceforth allocated for such purposes; and be it further

Resolved, That the delegates of the Nassau County Medical Society be instructed to present these resolutions to the annual meeting of the House of Delegates of the Medical Society of the State of New York to be held at Buffalo starting April 28, 1941, with the request that the Medical Society of the State of New York sponsor and see to the introduction and passage of such legislation as might be necessary to make effective the purposes of these resolutions.

Members of the Committee discussed the disposition of re-registration fees and also the question of fines for noncompliance with the law with Commissioners of Education Dr. Miller, Dr. Conroe, Dr. Heisler, and Dr. Hannon. The law is specific and requires every practicing physician to apply to the Department annually for registration. Application forms for such

registration will be mailed by the Department on or before the first day of October to every registered physician in the state. The application must then be filled out and returned to the Department with the statutory fee of \$2.00. The certificate of registration bears the date of January 1 and expires on December 31. The law further states that any licensed physician who fails or neglects to register by January 1 of any year, as required by the provisions of this section, shall be required to pay for registration, in addition to the fee of two dollars, a further fee of one dollar for each thirty days, or part thereof, that he is in default; and any licensed physician who willfully refuses or omits to register hereunder and engages in practice shall be subject to a civil penalty of one dollar for each day that such practice shall continue, and if the same continues for more than thirty days the penalty thereafter shall be five dollars per day so long as the said practice shall continue; said penalty shall be recoverable in an action by the attorney general of the state maintained in the name of the people of the state of New York.

The following letter from Director Heisler of the Division of Professional Licensure of the State Department of Education outlines the cost of the annual registration and the expense for the penal enforcement of the Medical Practice Act.

"Dr. Hannon has advised me that you would like to have information relative to the cost of the annual registration of physicians and the expenditures for the penal enforcement of the Medical Practice Act. I understand that you wish to ascertain whether the receipts from annual registration far exceed the expenditures for the enforcement, as has been asserted in some quarters, or whether they are insufficient to carry the load. Although it is impossible to make an exact financial statement, it can be shown that the latter is more nearly the case.

"In the first place, the receipts from the annual registration of physicians aggregate approximately \$50,000. During the past year, we have registered something over 24,000 physicians, each of whom has paid at least \$2 for his registration. In addition, we have additional fees for delay and delinquency which bring the total up to the amount stated.

"In determining the amount of the expenditures the problem is more difficult. Fortunately, some work along this line is being done under the direction of the Finance Division by Mr. Richard Woodruff, a graduate student of the Maxwell School of Public Administration at Syracuse University. From the data that he has collected, it appears that the annual cost of the permanent and temporary clerical staff having to do with the annual registration of physicians amounts to \$3,600. In addition there are unallocable services amounting to \$10,000. This amount represents the closest possible estimate of the value of the service rendered in the annual registration of physicians and in enforcement by members of the staff whose regular duties include much more.

"Mr. Woodruff has analyzed the service costs of the enforcement of the various professional laws by Mr. Mangan's office and advises me that the amount that best repre-

fications and should not be violated by any outside party, be he employer, insurance carrier representative, employers' organization representative, or labor union representative.

Laboratory Services.—Recently bills of practicing physicians have been questioned because they charged for laboratory services performed in a workman's compensation case where the laboratory tests were done by another physician.

Where a practitioner is qualified by reason of experience and training to do certain simple laboratory procedures himself, such as urine examinations and blood counts, and actually performs such examinations, he may include the cost of same in his bill. Where a physician orders laboratory service performed by a physician with laboratory qualifications, the latter should render the bill and not the attending physician who ordered the services. Where an attending physician sends a specimen of blood to the Department of Health Laboratory for a Wassermann test, it is not proper for him to charge a fee of \$5.00 for such test, since he does not actually perform the test. If the blood for a Wassermann is sent to a private laboratory, such laboratory, if licensed under the Workmen's Compensation Law, should make the charge for the Wassermann test.

Laboratory examinations under the Workmen's Compensation Law may be performed without authorization if they do not exceed \$10. Where the fee exceeds \$10, authorization should be obtained except in an emergency in accordance with the provisions of Section 13-a(5).

Aetna Casualty and Surety Company.—We are pleased to report that the Aetna Casualty and Surety Company has agreed to desist from its former practice of sending out names of physicians and hospitals to policyholders. This problem has been discussed in a number of our previous reports and has been the subject of considerable negotiation for a number of years. Mr. Samuel Kaltman, attorney for the Aetna, has informed us that the practice will cease as of March 1. We are very happy to announce a satisfactory conclusion of this matter and to congratulate the Aetna and Mr. Kaltman on their decision.

Miscellaneous Items.—There were five hearings before the Industrial Council on appeals by physicians over rulings on qualifications by the county medical society compensation boards. In each instance the compensation boards have been upheld.

We have been consulted on numerous occasions by the Chairman of the Compensation Law Board of the New York State Osteopathic Society, Dr. Claude M. Bancroft, who has always manifested a spirit of cooperation concerning workmen's compensation matters. The question whether osteopathic physicians may obtain specialists ratings in certain specialties has been raised and is being studied by your Committee.

Your Director has taken part in a number of programs on industrial medicine and surgery, and on compensation matters generally, before various county societies and private medical groups.

In the course of the year there were numerous conferences with the Industrial Board and the Industrial Council of the Department of Labor and also other law enforcement agencies, insur-

ance organizations, etc. Our relations with these groups continue cordial and harmonious.

Your Bureau has assisted county society compensation boards throughout the state in compensation matters and has assisted numerous physicians throughout the state in ironing out their difficulties in regard to compensation matters, payment of bills, etc.

As in the past, your Director has followed arbitration proceedings closely and participated in such arbitration proceedings upstate, as well as attending meetings of the legislative committee and secretaries group.

Appreciation.—Your Director wishes to acknowledge the great help voluntarily given by the Law Reform Committee of the Bar Association, under the chairmanship of Mr. Henry Clay Greenberg, in preparing and introducing certain amendments to the Workmen's Compensation Law to facilitate the administration of the Law.

During the past year our relations with the Department of Labor and the Compensation Insurance Rating Board have been close and cordial. We wish to express our appreciation and thanks to the rank and file of these organizations, especially to Mr. Henry S. Sayer, Mr. Irving Sofferman, and Miss Elizabeth Doogan of the Compensation Insurance Rating Board; and to Mr. Michael Murphy, Mr. Ralph R. Boyer, and Mr. Hugh Murphy of the Labor Department; as well as to the members of the Industrial Council. These individuals and an increasing number of representatives of insurance carriers organizations and self-insurers have shown a real desire and willingness to cooperate with your Committee and with the representatives of the county societies in bringing about a smoother and more equitable administration of the Workmen's Compensation Law.

Time and space do not permit of a detailed description of the routine work of the office. The volume of paper work has increased so that at the present time the office is working to capacity and occasionally overtime. Your Director wishes to commend and thank the members of the office staff under the supervision of Miss Elizabeth Wheeler for their devotion to their duties during the past year.

PART X

Public Relations and Economics

The Council Committee on Public Relations and Economics:

Augustus J. Hambrook, M.D., *Chairman*. Troy
Herbert H. Baucus, M.D. Buffalo
Harry Aranow, M.D. Bronx

has continued its studies of a number of different matters. The annual report on these, approved by the Council, follows.

REPORT

The Committee held three meetings during the year, at which matters referred to it by the Council were discussed and principles formulated. Because of the difficulty in bringing members of the Committee together at frequent intervals, much of the work was done by mail, telephone, and personal interviews by the chairman.

During the year many matters come up that

vehicle licenses. The family doctor can render valuable help to the Motor Vehicle Department of the state. The Commissioner stated that he had received no adverse comments on the special M.D. license plates accorded members of the medical profession, and he will continue to accord members of the medical profession this special privilege in the future. Physicians are cautioned to use on their cars only the license plate issued by the department. Any other plate is illegal. The medical insignia may be used on the front of the car and will accord traffic officers information as to the profession of the driver approaching him. This suggestion was made by the motor vehicle commissioner to obviate unnecessary traffic delays.

Physical Examinations for Federal Civil Service.—Some protests have been received and investigated by this Committee, wherein applicants for civil service positions have been required to have physical examination by a government-employed physician. I am informed, as of this date, that this has been changed and any licensed physician may now make such examinations and submit report. Hitherto, physicians in government institutions or under government pay made such examinations without cost to the applicant. In some instances excessive fees were requested by the examining physician. The stress of war may make necessary many changes in the way in which examinations are required and in the personnel. This Committee will continue to supervise such examinations.

Recommendations for the Improvement of the Coroner System in New York State. Better Postmortem Examinations.—The New York State Association of Public Health Laboratories and the New York State Association of Funeral Directors are both concerned with possible amendments to the law governing the duties of coroners. It will be noted that under this title you will find nowhere in the statutes a statement as to the qualifications or educational background which an individual must possess in order to be eligible for election to the position of coroner. In the State of New York some counties have abolished the position of coroner and substituted therefore a new position under the title of medical examiner. The administration of this new office has resulted in the appointment of persons who possess more adequately the proper qualifications for the important duties devolving upon the official. In the counties where the coroner still exists, it has been found that in some cases they do elect physicians, but in many other cases a layman holds the office. This requires that when an autopsy or post-mortem examination is required, it is necessary that the lay official call in to assist him a qualified physician. There exist today no specifications under the law as to experience or training necessary for the office of coroner. Almost any citizen can qualify for the position. The coroner is elected or appointed and in some instance he may exercise great power in a county.

Obviously, under our present type of civilization, the position of coroner has been outmoded. Such an officer should be a pathologist, trained in morbid pathology. He should have judicial temperament and be a good executive. At times even a well-trained and experienced pathologist

finds it difficult to determine the cause of death. How much more difficult does the problem become when a man without any experience makes this attempt. A coroner should also have legal knowledge and training. Many states have recognized this situation and have either abolished the office of coroner entirely or have delegated the duties to other county officials, such as the district attorney. In this state, medical examiners have replaced the coroners in at least four counties. In the few counties where medical examiners have been substituted for coroners, the administration of the new office has been improved. Any special tissue examinations or other laboratory investigation must be performed at a laboratory and by qualified laboratory men. The time seems to be at hand, therefore, when some change should be made, and the following recommendations are suggested:

1. That the position of coroner be abolished and the title of medical examiner with proper statutory requirements be substituted.
2. If this recommendation does not meet with the full approval of the electors in any county, then it is suggested that the person nominated for the position of coroner be required to have a physician's license to practice in this state. Further qualifications would be the ability correctly to perform autopsies and postmortem examinations.

The funeral directors are chiefly concerned with the manner in which postmortem examinations are made, and in many instances it has come to the attention of members of this Committee that postmortem examinations have been refused by a family on the advice of the funeral director. His objections were based on the fact that the examination was so poorly done that it made his care of the body unsatisfactory. Severed blood vessels were cut too short, ligatures slipped off, and this made embalming of the body unsatisfactory. The Subcommittee on Hospitals will cooperate with the funeral directors in efforts to have more satisfactory work done. Hospitals receive their rating in no small measure on post-mortem examinations performed, and for this reason alone members of the medical profession should take a vital interest in this matter. We have a fine opportunity at the present time to cooperate with the State Association of Funeral Directors and the New York State Association of Public Health Laboratories in correcting abuses that apparently now exist.

PART XI

Special Matters

During the year the Council has given attention to a wide variety of subjects of administrative or other special import. These matters and the actions thereon are herewith submitted.

State Society Assessments and Service in Armed Forces.—At your last meeting you gave direction "that, on the request of any component county medical society, the annual assessment of any of its members temporarily on active duty in the military or naval service of the United States may be remitted by the Council in full or in part during the period of that service."

sents the cost of enforcement in medicine is \$29,000.

"Annual registration requires a large amount of printing. The Publication Bureau advises me that these costs amount to approximately \$5,000. The printed list, appearing annually, costs by itself over \$4,700.

"In addition, there is a large expenditure for postage, amounting to over \$1,000, for sending out the application cards and the registration certificates, to say nothing of the large amount of correspondence that registration and enforcement require inevitably.

"This makes a grand total of \$48,600, but the story is by no means all told. There are intangibles and incalculables that would raise this amount to a much higher figure were it possible to compute them. For example, there is overhead. There is no possible way of computing the amount that should be charged to medical registration for items such as rent, heat, light, and janitor service. There is no way of computing how much medical registration should be charged for telephone service, messenger service to and from the mailing room, and the service in the Finance Division where the mail is opened and the fees are recorded. There is no way of computing the charge for building service and maintenance, equipment and supplies, depreciation, and other items. Undoubtedly, all of these items would amount to a considerable sum, and it would be unfair and inaccurate not to consider them in determining whether the medical profession pays in registration fees an amount that would be sufficient to carry on registration and enforcement as a separately housed and self-contained unit.

"The conclusion is inescapable. The state does not make a handsome profit or any profit at all on the annual registration of physicians. In fact, it is only by providing the cost of the incalculable items from other sources that the state has a sufficient amount left in the registration funds to carry on the vigorous enforcement of the law that its policy demands."

Fines for Late Registration.—The Committee has been active during the year in efforts to have fines imposed for late registration remitted. The department is anxious to cooperate but the law is specific and ignorance or neglect of its provisions is no excuse. The large proportion of the medical profession in the state register promptly and the publications department has agreed to print boxed information in the JOURNAL regarding annual registration. The county medical societies will be stimulated either through their publications or at meetings to have their membership register promptly and according to law. The names of all physicians going into service will be submitted to the department promptly and carried on the roster during their absence from their medical practice. The Committee has found very active cooperation on the part of all members in the department concerned, and has been aided in its work by Dr. Joseph Lawrence, our executive secretary.

We had hoped to include in this report a statement as to the enforcement of the Medical Practice Act by the Department of Education during the past year, but up to date no report has

been received and this information will be included in a supplemental report.

Health and Accident Insurance for Interns.—It was brought to the attention of the Council that in many instances in this state doctors serving as interns in hospitals were not covered by insurance, either accident or sickness. At the time no subcommittee on hospitals was available and this Committee instituted an investigation. Many of the hospitals were contacted by letter and the results were compiled. In many cases doctors served as interns without any compensation, while in some hospitals, especially upstate, some compensation is received for services rendered. In the course of their work accidents may occur and they may become sick by caring for patients in the wards of the hospital.

As a rule, nurses are covered under the State Compensation Law, and it seems only fair and reasonable that interns in hospitals should be protected under the Compensation Law. Dr. David J. Kaliski, director of the Workmen's Compensation Bureau of the State Medical Society, advises us that under Group 15 of the Workmen's Compensation Law, interns are covered in municipal hospitals, prisons, reformatories, mental hygiene hospitals, or a hospital maintained by any subdivision of the state.

In the case of *Bernstein v. Beth Israel Hospital*, 236 N.Y. 268; 133 S.B. 42, it was held by the court that an intern in a voluntary or private hospital is an employee of such an institution and therefore covered under the law. It would seem that all interns should be protected under the State Compensation Act and the newly created Subcommittee on Hospitals has been furnished with all data collected up to date. The new committee will have the responsibility of dealing with the Hospital Association and will, no doubt, make a report.

Medical Examination of Motor Vehicle Drivers.—After careful study covering several years, this Committee made definite recommendations last year to the Motor Vehicle Department of the state in connection with licenses and relicenses to be issued. It was found that accidents were caused repeatedly by the same drivers and some of these accidents were directly due to diseased condition or physical deficiencies—heart disease, diabetes, mental disease, nephritis, physical deformities. All were found to be associated with the accident repeaters. Because of the great number of motor vehicle drivers in the state, it would not be practical to have a yearly physical examination before license is issued. Applicants are now required to answer certain questions regarding evidence of disease and whether proper treatment is being administered. After a serious accident the driver is usually expected to furnish satisfactory report of his ability to drive. The mental case now committed to a hospital will have his license taken up and returned to him only after satisfactory proof of his mental fitness. We have a law now covering the drunken driver. The department feels that the recommendations made by the Medical Society have been fruitful and is anxious for our further cooperation.

To repeat, it is the opinion of the Committee that in many instances of diseased condition known to physicians, individuals could be discouraged by their physicians from seeking motor

helped to educate the public on the evils of compulsory health insurance.

It has been evident that the women will really work when they are given a job and that they will be active in combating unfavorable legislation, whereas the men for the most part will do little or nothing in endeavoring to influence legislation. It is believed that the Legislative Committee will testify to this fact in that they have always had great difficulty in getting doctors to write telegrams or letters to legislators, whereas the women will do it readily.

It is realized that there has been some opposition to the Women's Auxiliary in the state, but it is believed that those counties which have active auxiliaries will testify to their usefulness and that the opposition has been largely from those counties which either do not have them or have inactive ones.

Another point that occurred to me after hearing Dr. Bauckus' report is that the Auxiliary might also be useful in spreading information about medical expense insurance organizations.

Continuation of Special Committees.—The Council recommends the continuation of the two special committees of the Society which were created by the House in 1940 and reappointed by it in 1941. These are the Publication Committee and the Committee on Office Administration and Policies, which work under the supervision of and report to the Council.

The Publication Committee has met regularly and effected production of the JOURNAL and the 1941-1942 edition of the *Medical Directory of New York, New Jersey, and Connecticut*, as shown in Part IV of the Council report. Its personnel has been: the general manager, Dr. Irving; the director of the Public Relations Bureau, Mr. Anderson; the literary editor, Dr. Redway; the treasurer, Dr. Dwight; and one trustee, Dr. Brennan, who was also chairman.

The Committee on Office Administration and Policies has held regular meetings throughout the year coincidently with those of the Publication Committee since many of the matters discussed were of mutual interest. Among these were included the following: assignment of members of the office staffs and evaluation of their duties; specific functions of the Society's secretary in his various capacities; salary adjustments in relation to living costs; renewal of contracts of certain officers; consultations with auditor's representatives; and various questions of routine which came within the province of this Committee, including possible retrenchments necessitated by reduction of income from dues. Its personnel has been: the general manager, Dr. Irving; the business manager of the JOURNAL and the *Directory*, Mr. Anderson; the literary editor, Dr. Redway; the treasurer, Dr. Dwight; and one trustee, Dr. Kosmak, who was also chairman.

The Council recommends that in continuing the two committees the House direct that the personnel be as follows:

For the Publication Committee: the general manager, the director of the Public Relations Bureau, the literary editor, the treasurer, and one member of the Board of Trustees to be appointed by the president of the Society after consultation with the chairman of the Board of

Trustees, in accordance with the resolution adopted by the House of Delegates in 1941.

For the Committee on Office Administration and Policies: the general manager, the business manager of the JOURNAL and the *Directory*, the literary editor, the treasurer, and one member of the Board of Trustees to be appointed by the president of the Society, after consultation with the chairman of the Board of Trustees, in accordance with the resolution adopted by the House of Delegates in 1941.

Nominations for State Positions.—On request for a nomination from the Bureau of Narcotic Control of the New York State Department of Health, the Council nominated Dr. Homer L. Nelms, Albany, to succeed himself as a member of the Advisory Board of the Bureau of Narcotic Control on July 1, 1941. On request for nominations from the executive secretary of the Committee of Grievances of the State Department of Education, the Council nominated the following to succeed themselves on January 1, 1942: Dr. Austin G. Morris, Rochester; Dr. George B. Broad, Syracuse. On request for a nomination from the secretary of the State Board of Examiners of Nurses for membership on the Nurse Advisory Council, the Council of the State Society nominated Dr. Aloney L. Rust, Malone, to succeed himself as of December 31, 1941.

Related Bills.—The Council recommends payment of the following bills for travel expense, which were not turned in until after expiration of the statutory thirty days and possible extension for ninety days more: Dr. Harry C. Guess, Buffalo, \$10.81, for train fare to the A.M.A. meeting as delegate in 1941; Dr. F. Leslie Sullivan, Scotia, \$20.59, for travel expense in December, 1941, to attend the meeting of the Subcommittee on Medical Relief in Rochester.

Proposition for the Economical Use of Medical Personnel.—One of the members of the Nassau County Medical Society, Dr. Arthur C. Martin, drew up and submitted to Dr. Louis H. Bauer a plan which Dr. Bauer brought to the Council. It was understood that this was the method pursued in England. It was considered by the Council and was ordered to be transmitted to the surgeons general of the army and the navy. It follows:

Under the conditions of this war, adequate medical, dental, and nursing service must be provided for: (1) the army and navy abroad; (2) the army and navy at home; (3) the war industry worker; (4) the civil population under normal peacetime sickness incidence; (5) the civil population as the potential victims of casualties resulting from invasion by air or sea, and from sabotage which may strike anywhere.

None of these three groups can safely be deprived of adequate and prompt professional service.

The number of men and women available who are trained and able to render this professional service is definitely limited. This number cannot be materially increased by any practical or safe method of rushed education or mass production.

Therefore, it is imperative that the services of already trained and competent medical practitioners be allocated with the most care-

In keeping with this policy your Council worked out and set up for the year 1941 the following guiding regulations which were sent to the county medical societies in June, 1941:

1. *Full remission* of 1941 state assessments will be made, when requested by the county medical societies, for those members temporarily in full-time or practically full-time military or naval service of the United States who entered such service prior to June 1, 1941, except as stated under No. 3 below.

2. *No remission* of 1941 state assessments will be made for those members entering service after June 1, 1941.

3. *For new members* elected in 1941 or elected in the last three months of 1940 with dues credited to 1941, *no remission* of the first year's assessments will be granted.

This decision rests on the reasoning that the payment of the first year's dues is made at the time of application and partakes somewhat of the nature of an initiation fee.

4. *1941 state assessments already received* from county medical societies for those members—not new members—eligible for remission of these assessments under No. 1 above will be *refunded* by the State Society to the county societies.

As a result of this action the Council, at request of the county societies, remitted state assessments for the year 1941 for members who had entered service prior to June 1, 1941, to the total of 455.

The matter of remission of state assessment for the year 1942 was taken up with the county societies with the break of the new year. So far (March 12, 1942), requests have come in covering two groups: first, those who had received 1941 remissions because of entrance into service before June 1, 1941; and, second, those who had gone into service after that date. The Council has granted 1942 remissions to the total of 581.

Further 1942 remissions will, of course, be in order for members in good standing with dues paid for 1941 who will enter service before June 1, 1942.

Two questions have arisen as to remissions: one of these the Council felt that it had the authority to settle, but the second question, in the opinion of the Council, requires action by the House of Delegates.

The Council went on record at its meeting on January 8, 1942, "as interpreting the action of the 1941 House on remissions for service to include remission for any member entering the armed services of the Allies of the United States in the present war. It was understood that remissions would be made on the same basis as for those entering the armed services of the United States."

The other question the Council refers to the House. It arose because the Cattaraugus County Medical Society proffered a request for remission of 1942 assessment for a member who gave up his practice in Olean, reporting for duty with the U. S. Public Health Service in the Panama Canal Zone. The wording of the resolution adopted by the House in 1941 specifically mentioned active duty "in the military or naval service of the United States." At the time of this report the Council is seeking information about wartime increases in the U. S. Public Health Service which in the ordinary course of

events would be followed by demobilization when the war ends. This will be presented at the time of the meeting.

Financial Aid to County Societies for Medical Preparedness Work.—At your last meeting you considered a resolution reading, "That the Medical Society of the State of New York allot sufficient funds to assist the county committees on medical preparedness where it is evident that such assistance is needed." After discussion this was committed "to the Council for such action as they may find expedient." The Council gave due consideration to this problem but decided last October to table the matter "until it has been determined just what the future of draft board work is going to be."

Woman's Auxiliary.—The Council set up an Advisory Committee to the Woman's Auxiliary, as a Council committee to replace the former Special Committee of the Society, with the following personnel:

Louis H. Bauer, M.D., *Chairman*.Hempstead
Francis R. Irving, M.D.Syracuse
Carlton E. Wertz, M.D.Buffalo

This Committee presented a report, which has the approval of the Council, including the recommendations.

REPORT

The Advisory Committee to the Woman's Auxiliary to the Medical Society of the State of New York had a meeting recently with the officers of the Auxiliary. A long-range program for the Auxiliary was discussed. It is felt that certain actions should be taken by the Council in the matter of the Auxiliary.

First, there are too few counties which have organized auxiliaries. It is believed that through the JOURNAL and through communication with the secretaries of the various county societies the Council should urge the formation of additional auxiliaries and urge those which already have them organized to increase their membership.

Second, it is felt that an increasing strain is going to be placed on the finances of many county societies due to the loss of dues from members entering the military services. In some instances this may prove such a financial drain that many society activities will have to be suspended unless another source of income is found. It is believed that the auxiliaries in many instances might be able to increase the finances of their county societies by raising money and by helping out in county society offices on a part-time basis, thereby reducing the overhead.

The third recommendation is that county societies be urged to have their auxiliaries make a survey of their membership. Many members will be found qualified as nurses, laboratory technicians, and clerical workers, and they could be tied not only into county society work but into the defense program. Some of the auxiliaries have already made such surveys and are anxious to have their membership put to work.

The final recommendation is that the Public Relations Bureau be asked to prepare a circular of information on the proposed extension of the Social Security Act to cover hospitalization and health. This circular can be used by Auxiliary members to help educate the general public through their connections with other organizations on the viciousness of this plan just as they

PART XII

Malpractice Defense and Insurance

The Committee on Malpractice Defense and Insurance:

Clarence G. Bandler, M.D., *Chairman*.....

.....New York

Murray M. Gardner, M.D.....Watertown

Andrew Sloan, M.D.....Utica

Peter Irving, M.D., *ex officio*.....New York

Kirby Dwight, M.D., *ex officio*.....New York

submitted the following report, which the Council approved.

REPORT

Great wars reach into and disturb the economic balance of every phase of human existence in all countries. It is not easy to trace the course by which some elements are disturbed, but the results are clearly discernible. It is easy to understand, for example, why marine insurance with its attendant war-risk losses is profoundly affected, but it is not so easy to understand why the general unrest should cause an increase in the cost of malpractice insurance, but our most carefully compiled loss tabulations indicate that to be a fact. While there has been a noticeable decrease in the number of suits and claims against members of the State Medical Society, the cost of disposing of them has considerably offset that favorable factor. The over-all result of the operation of the Group Plan of the State Society up to date indicates that some increase in the base rate has become necessary.

Analysis of our loss costs developed the fact that losses, on account of plastic surgery and particularly that which, for want of a better term, is referred to as "cosmetic" surgery, have grown to be far in excess of those for all other branches of medical practice, with possible exception of x-ray therapy. Had it not been for those losses, it is possible that a small reduction could have been made in the Group Plan rate at the present time.

This situation has made it necessary for the Yorkshire Indemnity Company to amend the master policy so as to exclude all losses on account of plastic surgery, except those arising by reason of the performance of operations for the purpose of "remedying conditions caused by trauma, or by congenital deformities, or by demonstrable pathological lesions." At the same time, arrangements were made so that members whose practice regularly includes "cosmetic" surgery, and who have clearly demonstrated their competence to pursue that specialty, could secure protection, by endorsement added to their individual insurance, for an additional premium equal to 50 per cent of their annual premium. This follows the principle, adopted in 1924 with respect to x-ray therapy, of allocating increased charges against specialties responsible for excessive loss experience.

Because of this adjustment, the forthcoming increase in the general rate will be small. Although the new rate computations have not yet been completed, it appears that some further reduction may be made in the expense element which will exert a further modifying effect upon the ultimate rate.

At the present time, when an increased number

of members are being called into active service with the armed forces, the following opinion of the Judge Advocate General of the Army will be of special interest:

"A person in the military service may claim that an officer of the medical corps has in some manner been guilty of malpractice in treating or examining him in the line of duty. A similar claim for alleged malpractice may be pressed against an examining physician for a local Selective Service board by a selectee called before that board. The fact that a person is in the military service, or is in the course of being inducted therein, does not prevent him from asserting his civil rights so long as the interests of the service or of national defense are not concerned. Hence, the Judge Advocate General of the Army has held that members of the Army are entitled to the same civil rights of action among one another with reference to suits for malpractice or negligence as they would have in civil life.*

"Without doubt the same degree of care, diligence, and professional ability required of any physician with respect to the care of patients in civilian life is required by law of a medical officer of the Army, or of an examining physician for a local board, in his care or examination of a member of the service or of a selectee called for the purposes of induction. For a departure from such standard resulting in harm to the patient the medical officer or the examining physician would be liable in a civil suit by the aggrieved patient the same as though both the patient and the physician were in civil life. The medical officer, then, in the Army and the physician acting for a local Selective Service board by virtue of his service or function stand in no different position with respect to answerability to his patients from that of a physician acting solely in a civil capacity.

"However, were a malpractice claim to be pressed against an army medical officer or an examining physician for a local board for alleged malpractice in the performance of his official duties, the government itself would no doubt provide defense for the physician accused. It has been the practice of the Attorney General, in the past, to provide, on the request of an interested government department or agency, defense for government officers or agents in civil suits arising out of the activities in the course of the discharge of their official duties. A communication from the office of the Judge Advocate General of the Army dated May 1, 1941, indicates that in the past the War Department itself has not undertaken the defense of a civil suit for malpractice brought against a member of the medical corps, but that the defendant medical officer has had the right to have the case removed to a federal court and to be defended by a United States attorney designated by the Department of Justice. If, however, according to this communication, a judgment was to be rendered against such a medical officer, there is no provision by law by which the judgment could be paid by the government or by which the defendant physician could be reimbursed by the government."

* J.A.G. 707, March 6, 1934.

ful consideration of the needs of the entire population.

To accomplish this "rationing" of medical service, it should be recognized that every practitioner has parts of each day in which he is not engaged in his professional duties. Further, it can be shown that by rearrangement of the routine work of each practitioner still more hours of each day could be set aside for duties other than are now engaged in.

This surplus time can be placed at the disposal of: (1) the army and navy at home; (2) the war industry worker; (3) the civil general population.

It may be accepted by the medical services of the armed forces, therefore, that much of the medical service required by them at home can be supplied by present active practitioners on a part-time basis, without removing these practitioners from their present localities. They may recognize that the clinical care of the sick and wounded in permanent home hospitals and camps differs little from the clinical service now being rendered to civilians in civil hospitals, and further that in case of air or invasion casualties all the population, military and civil alike, are reduced to a common level and must all be treated alike. It is entirely possible to enrol the whole eligible medical, dental, and nursing personnel of the United States into a tremendous reservoir of "professional service hours."

From this reservoir, withdrawals could be made in the following major classes:

1. Young, physically fit practitioners for the physically arduous requirements of over-sea and ship service, full-time;

2. Certain others, regardless of age and not necessarily physically perfect, for special, full-time, administrative consultative command, or other duties which require medical or dental training;

3. The great majority of the several professions to be called to give service, part of their time, to registration areas, camps, concentration centers, embarkation centers, and base and general hospitals in the "home area" (continental United States) without removal from their home communities or severance from their civilian practices.

Suggested Method of Creating, Rapidly and Effectively, this "Reservoir of Professional Service Hours."—Establish a federal Professional Reserve Corps composed of (1) doctors of medicine, (2) dentists, and (3) trained nurses. Enrol therein every active and acceptable practitioner of these medical and allied professions in the United States, regardless of age or physical condition, through the national, state, and county organizations. Classify the whole group of such practitioners in accordance with the major classes previously outlined. As rapidly as may be needed, release for active over-sea service the present full-time medical officers in now existing "home area" army and navy hospitals, camps, centers, etc., replacing them with local, part-time practitioners of the third group.

As new army and navy hospitals are contemplated, locate them with principal regard to the availability of local practitioners of the third group.

Protest against Noninclusion in Directory.—From an active member who is not registered to practice in the State of New York, but has membership through the Medical Society of the County of New York as a full-time teacher in the Cornell University Medical College, comes a protest that the Council deems can best be considered by the House of Delegates. The following letter is from Dr. McKeen Cattell, professor of Pharmacology at Cornell, and resident in New York City. He has been an active member since January 24, 1938.

"For several years I have been carrying cards which certify that I am a member in good standing of the Medical Society of the County of New York and of the Medical Society of the State of New York. During this period my name has not been included in the *Medical Directory of New York, New Jersey, and Connecticut*. Evidently the membership is made up of sheep and goats. There would seem to be no objection to this, but somewhere there should be available a complete listing of the membership of the Society which is accessible for reference. If it is not feasible to include all the members in a single listing, the disqualified members should be classified under a separate heading.

The present policy is misleading and a source of frequent embarrassment to me. I am therefore writing to request that the matter be rectified with the publication of the next edition of the *Directory*."

The reason for nonpublication of Dr. Cattell's name is the policy laid down many years ago of listing in the *Directory* only physicians who have registered their licenses to practice in the state of New York. The House alone, therefore, has authority to change that policy—if a change be deemed wise.

Committee for Interpretation of Medical Ethics.—The Council, as instructed, considered "an amendment to our constitution setting up a body for interpretation of medical ethics, to which committee questions could properly be addressed."

The Council is of the opinion that the objective stated does not call for amendment of the constitution. It is the belief of the Council that where questions come from members on matters of ethics, they should be referred directly to the county society concerned. This conclusion rests on the fact that while the *Principles of Professional Conduct* are a product of the state Society's studies, their application is primarily the privilege and duty of the county societies, with the state Society ready to act as a court of appeals.

Where questions come from county societies, they should come to the Council—with, if necessary, a Council committee to sift them through and thus hasten reply.

1945 Convention of the American Medical Association.—From the New York Convention and Visitors' Bureau, the Council has received a suggestion that the American Medical Association be invited by the Medical Society of the State of New York to hold its annual meeting in 1945 in New York City. The Council begs to transmit this suggestion without recommendation.

committee which recommended adoption of the resolution has been headed. That committee felt "that the Council and elected officers should at all times be cognizant of any impending legislation and be on the alert to study the same."

Deaf and Hard of Hearing (Section 47).—Recommendation was adopted that the Council committee concerned with studies of problems in the field of the Deaf and Hard of Hearing be continued.

The Council continued the committee and increased it to five. See Part II of the 1942 Council Report for report on the committee's work this year.

Deferment of Service for Medical Students (Section 62).—With relation to medical students already inducted (at that time) into the Army, the House passed the following resolution:

"WHEREAS, the experience of belligerent nations in the World War and in the present conflict amply demonstrates the necessity for insuring a continuing supply of well-trained medical graduates; and

"WHEREAS, the United States Army in 1917-1918 permitted medical students on active service to be transferred to the Reserve for the purpose of completing their medical course, on application to and approval by the Surgeon General; therefore be it

"Resolved, that the Medical Society of the State of New York instruct its delegates to the American Medical Association to introduce a resolution, memorializing the Surgeon General to give consideration to similar action with respect to medical students inducted into active service in the present emergency."

The matter was presented in a resolution to the House of Delegates of the American Medical Association on June 2, 1941.

(Section 63).—For medical students not yet (at that time) inducted, the House approved of the principle of deferment of service for medical students and enrolled medical students as "essential to the health, safety or interest of the nation."

This matter also was presented to the House of Delegates of the American Medical Association on June 2, 1941.

Directory (Section 39).—Recommendation was adopted that a return be made to the old system of listing the names by towns so "that New York City and each of its boroughs be listed alphabetically after Manhattan, and grouped in the front of the Directory."

This instruction was carried out in the 1941-1942 edition of the *Medical Directory of New York, New Jersey, and Connecticut*. See Part IV of the 1942 Council Report.

The House also adopted a recommendation "that the *Directory* be alphabetically thumb-indexed or, if this is too expensive, that some method be evolved and included in the new *Directory* of rendering the alphabetical listing of physicians and communities more easily available."

This procedure was found too expensive by the Publication Committee and the instruction,

therefore, was not carried out. See Part IV of the 1942 Council Report.

"Doctor"—Use of Title (Section 77).—The House approved the following report of the reference committee concerned:

"Your committee approves of the stand of the Committee on Legislation to safeguard the use of the title of 'Doctor' by those who practice podiatry, and that measures be taken to enact legislation to limit the term 'Doctor' to those who deserve it without qualifying terms."

The Council took this under consideration but took no action looking to further legislation. It was understood that under present laws of the state the only one who may use the title "Doctor" is a Doctor of Medicine. All other "doctorates" now require the qualifying terms of Doctor of Philosophy, Podiatry, etc.

Dues and Assessments—Remission for Members in Active Military and Naval Service (Section 56).—The House, being advised of the action of one component county medical society (Erie County) as favoring the waiving of both county society dues and State Society assessments, went on record as follows:

"that, on the request of any component county medical society, the annual assessment of any of its members temporarily on active duty in the military or naval service of the United States may be remitted by the Council in full or in part during the period of such service."

The Council, with regard to State Society assessments, worked out a system of making remissions, and put it into practice as shown in Part XI of the 1942 Council Report.

Governor and Legislators—Expression of Appreciation (Section 51).—The House adopted "an expression of appreciation to the members and officers of the Legislature, and especially to the Governor, for the courteous reception extended representatives of the medical profession and the thoughtful consideration they have given medical and public health measures that have come before them."

The following letter was sent, under Council authority, to the Governor over the signatures of the president and of the secretary:

May 5, 1941

Hon. Herbert H. Lehman
Governor of the State of New York
Albany, New York

Dear Sir:

It gives us great pleasure to advise you that the Medical Society of the State of New York at its recent Meeting on April 28, 1941, adopted a resolution expressing appreciation to the members and officers of the Legislature, and especially to the Governor, for the courteous reception extended the members of the medical profession and the thoughtful consideration given medical and public health measures that have come before the Legislature and yourself.

Respectfully yours,
SAMUEL J. KOPETZKY, M.D.
President
PETER IRVING, M.D.
Secretary

Malpractice insurance in the Society's Group Plan will extend protection to policyholders *wherever they may be*. It will also protect members on account of suits against them because of the acts of other insured members in whose care they leave their practice.

Malpractice defense, however skillful, is only half of the protection needed by a practicing physician in this state, because not all suits or claims are resolved in favor of the defendants. A few are lost, but many are compromised because they are of such a nature that public defense would do more harm to the doctor's standing in his community than would a quiet settlement out of court. In such cases in New York State, an uninsured doctor must bear the cost of settlement and all expenses incident to defense except, of course, fees for legal counsel.

Malpractice protection to be effective must combine sound indemnity and skillful legal defense. That is the great lesson learned by the State Medical Society following the last war. It was to provide such a combination that the Group Malpractice Insurance Plan was organized by the Society in 1921. And since, for the first

time in insurance or medical history, these two elements of protection were brought together under the supervision and direction of organized medicine the Group Plan has lived and grown stronger through each of its twenty years of existence. As this plan of ours approaches its twenty-first birthday, it can be said that no undertaking of the State Medical Society has accomplished more for its members.

It has furnished sound, safe, and reliable financial protection. It has maintained, with the help of the Society, the finest legal defense for doctors to be found any place in the world. It has made possible the continuance of free malpractice defense for uninsured members of the Society. It has relieved the members from worry on account of malpractice actions against them and allowed them to devote their full thought and energies to their professional work, with no haunting fear of a courtroom. Since every member of the Medical Society of the State of New York, whether insured or not, benefits by the existence and sound growth of the Group Plan, every member of the Society owes to it his loyal backing and support.

Resumé of Instructions of the 1941 House of Delegates and Actions Thereon of Council, Trustees, and Officers

At the 1940 meeting the House of Delegates adopted a resolution to the effect "that the Annual Reports of the Medical Society of the State of New York in matters referred to the Officers, Trustees, or Council for action or study by the preceding House of Delegates shall include a résumé of the recommendations and resolutions with a definite report as to the specific action in each instance."

There follows what is in effect a summary, of index type, of the different instructions issued by the House at its meeting on April 28 and 29, 1941. The significant portions alone of the different resolutions are quoted.

The term "section" with a number following each heading refers to the Minutes of the 1941 House published in the June 15 and July 1, 1941, issues of the NEW YORK STATE JOURNAL OF MEDICINE.

—PETER IRVING, M.D., *Secretary*

Advertising by Physicians in Newspapers (Section 61).—

"Resolved, that the House of Delegates of the Medical Society of the State of New York go on record as disapproving all advertising in newspapers by practicing licensed physicians of the State of New York, individually or in groups, in the form of announcing their office address, office hours, kind of practice or particular cure to the public; and further be it

"Resolved, that the House of Delegates instruct the Committee on Legislation of the New York State Medical Society to take any necessary action to amend the present law to this effect."

This instruction was passed by the Council to its Committee on Legislation.

Committee on Public Health and Education (Section 46).—The House expressed "the hope that means may be found providing greater support in funds and personnel" for the Council Committee on Public Health and Education.

The Council and Trustees appropriated an initial increase in funds for this work in the budget for the last half of the calendar year 1941. For the new fiscal year 1942 the total allowance was enlarged to, roughly, 50 per cent more. This takes care of several new needs, including those caused by the substantial increase in number of subcommittees.

Corporate Practice of Medicine (Section 71).—The House adopted the following resolution:

"WHEREAS, the practice of medicine or of any other profession by a corporation is advisedly prohibited by most of the states of the Union; and

"WHEREAS, New York State now authorizes the formation of nonprofit corporations in the field of voluntary health and medical expense insurance, a development which may ultimately be extended to the authorization of the virtual practice of medicine by commercial as well as nonprofit corporations; and

"WHEREAS, proponents of radical innovations in the practice of medicine are known to be seeking means of breaking down or of circumventing present legal obstacles to the outright or disguised practice of medicine by corporations; therefore be it

"Resolved, that the House of Delegates request the Council to designate a committee to study the present laws and precedents in New York State relating to the corporate practice of medicine; this committee to be charged with the continuing duty of studying and periodically reporting to the House of Delegates and to the Society its findings and recommendations, with a view to preventing the destruction or circumvention of legal safeguards against corporate practice in New York State."

This was referred to the Council Committee on Public Relations and Economics. No report has been prepared but the advice of the reference

Medical Ethics Committee (Section 77).—Report of reference committee adopted included the following:

"The committee urges the Council to consider an amendment to our constitution setting up a body for the interpretation of medical ethics, to which committee questions could properly be addressed."

See Part XI of Council Report for report on Council study.

Medical Licensure to Graduates of Foreign Medical Schools (Section 75).—

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otherwise and irrespective of the question of citizenship, of graduates of foreign medical schools be strictly in accordance with the method of recognition that is applied with respect to the graduates of medical schools located in the United States and Canada. Any other method of recognition would constitute the grossest type of discrimination in favor of foreign graduates;

"2. That in the future recognition be accorded graduates of a foreign medical school who apply for license to practice medicine in the State of New York, only when there is in the possession of the Department evidence of the quality of instruction imparted by the school of graduation. This must be of equal quality with the evidence required of approved domestic schools. The identical standard should be applied in approving all medical schools, domestic or foreign."

The stand thus taken was ordered brought to the attention of the Executive Officer of Education through the Executive Officer.

Medical Preparedness—Funds to Assist County Societies (Section 74).—A resolution was ordered committed to the Council "for such action as they may find expedient." The resolution reads:

"That the Medical Society of the State of New York allot sufficient funds to assist the county committees on medical preparedness where it is evident that such assistance is needed."

The Council in October, 1941, postponed action until the future status of draft board work should be determined. See Part XI of Council Report.

Medical Practice Act—Definition of Word "Antiseptic" (Section 41).—Resolution adopted and ordered presented to the Board of Regents of the University of the State of New York:

"WHEREAS, the word 'antiseptic' has never been clearly defined as used in the Medical Practice Act, Paragraph 2, Section 1262; be it

"Resolved, that for the purpose of administration the term 'antiseptic,' as used in this law, shall be construed to refer to a substance employed for external purposes, the effect in both instances being to prevent or inhibit the growth of microorganisms."

This resolution was presented to the Regents. In December the Executive Officer reported to

the Council that in the opinion of the Attorney General the definition cannot be used legally since no State Department's jurisdiction permits it to interpret the law in such fashion as to grant less than the law itself; that no definition of antiseptic as given in the dictionary or encyclopedia limits its use to external application; the only way in which the definition of the House could be put in operation would be to have it incorporated in the law.

The Legislation Committee still has this under study.

Medical Practice Act—Enforcement and Re-registration Fees (Section 47—Enforcement).—Recommendation adopted: "that further annual reports on the workings of the Medical Practice Act be made to the House of Delegates from year to year."

See Section X of Council Report for this year's report on enforcement.

(Section 48. Re-registration Fees—Disposition) A resolution was referred to the Council for study. It read:

"WHEREAS, the Medical Practice Act of 1930 provides for the payment by every practicing physician of an annual re-registration fee of \$2; and

"WHEREAS, the medical profession was told at the time this law was proposed that the purpose of the fee is to provide the educational authorities of the state with funds with which to control the unlawful practice of medicine in the state with the implied or expressed promise that such fees were to be collected for a period of five years by which time the problem of the control of unlawful practice of medicine was expected to be solved; and

"WHEREAS, this annual fee has been collected annually since the effective date of the new law with no indication that it is not considered a permanent tax; and

"WHEREAS, there are no provisions or, at best, inadequate provisions for the care of indigent physicians in New York State; be it

"Resolved, first, that the Nassau County Medical Society requests an accounting of the monies collected for annual re-registration since the effective date of the new law with a statement as to how such monies were expended; and be it further

"Resolved, second, that a sum of money be set aside from this fund to be made available to the indigent physicians of the state; and be it further

"Resolved, that a portion of the annual re-registration be henceforth allocated for such purposes; and be it further

"Resolved, that the delegates of the Nassau County Medical Society be instructed to present these resolutions to the annual meeting of the House of Delegates of the Medical Society of the State of New York to be held at Buffalo starting April 23, 1941, with the request that the Medical Society of the State of New York sponsor and seek the introduction and passage of such legislation as might be necessary to make effective the purposes of these resolutions."

The Council in Part X reports fully on its study of this matter.

Instead of sending individual letters to the members and officers of the Legislature, the Council authorized that thanks be extended through an editorial in the JOURNAL. The editorial, from the June 1, 1941, issue of the JOURNAL (p. 1144) follows:

See Your Legislators

The House of Delegates at the One Hundred and Thirty-fifth Annual Meeting of the Medical Society of the State of New York voted unanimously "to adopt an expression of appreciation to the members and officers of the Legislature, and especially to the Governor, for the courteous reception extended to the representatives of the medical profession and the thoughtful consideration they have given medical and public health measures that have come before them."

Legislators are not mindreaders, however disposed they may be to cooperate with their constituents and with the medical profession. They are not mindreaders but lawmakers. To make laws wisely they must be accurately informed. And especially is this true concerning matters medical since such matters are frequently highly technical.

It is, therefore, up to the doctors of medicine who know about these things to keep closely in touch with their representatives not only in Albany but in Washington also. Cooperation implies equal effort on both sides. No legislator can cooperate with an indifferent, silent, or uncommunicative profession. Let every member of this Society get in contact with his representative or senator often. This is an obligation that medicine will neglect at its own peril and that constitutes a disservice to the public.

Hospital Construction Federal Bill S. 1230 (Section 45).—The House adopted a resolution which it had received from the Kings County Medical Society and revised in part to read:

"The Medical Society of the State of New York is informed that the Senate Committee on Education and Labor, of which Senator Mead is a member, has under consideration S. 1230, the Hospital Construction Bill introduced by Senator Brown of Michigan. The Society, through its proper committee, has carefully studied the bill and wishes to file with Senator Mead certain objections to it in its present form:

(1) It objects to the inclusion of an osteopath on the National Hospital Advisory Council. This designation seems unnecessary, for no hospital would be created for that form of treatment alone since it is only a specialized form of treatment.

(2) The bill seems to provide that only projects constructed within the first year shall be supervised by the advisory council. Other projects conceivably will be constructed in later years and the advisory council's authority should be extended to cover these also.

(3) The definition of the term 'hospital' in Section 18 is so worded as to permit of the construction, equipment and operation of health, diagnostic and treatment centers without specifying that there must be available bed capacity. Such centers, we believe, without available bed capacity would not constitute a hospital."

The Council directed Dr. Lawrence, the executive officer, to carry out the instruction to register the objections of the Society to the bill.

Interns—Health and Accident Insurance (Section 42).—The House received a suggestion that legislation be introduced "making it obligatory for hospitals in New York State to provide health and accident insurance for interns serving in their hospitals."

This matter was referred by the Council to its Committee on Public Relations and Economics. See Part X of the 1942 Council Report for action taken.

Invitation to American Medical Association for 1944 Meeting in New York City (Section 70).—The House authorized an invitation to the American Medical Association to hold its 1944 Meeting in New York City.

The invitation was given officially and by the delegates from the State Society. The decision of the A.M.A. House was for St. Louis in 1944.

Laboratory Medicine (Section 55).—In 1940 the House adopted the resolution:

"Be It Resolved That:

"1. The House of Delegates go on record as disapproving laboratory medicine by laymen or nonmedical personnel;

"2. That measures for establishing a proper relationship between city and state departments of health laboratories and physicians who practice pathology be endorsed;

"3. That the work of state and city departments of health be limited to the diagnosis of communicable diseases except where the diagnostic facilities of the state and city health departments are the only diagnostic means available for indigent patients."

In 1941 the House, receiving a report that conferences with representatives of various organizations on this resolution had turned up differences of opinion, adopted a recommendation "that the Council committee continue conferences looking toward the practical adoption of the spirit of the resolution by the laboratories concerned."

Formal conferences have not been held as yet.

Laboratories—Public Health (Section 55).—Recommendation: "Adoption of the principles stated in the proposal and appropriate action thereon by county medical societies and laboratory directors throughout the state." (See proposals in the JOURNAL for April 1, 1941.)

Formal meetings have not been held but there has been frequent informal contact with representatives of the Department of Health and of the Public Laboratories in the state, through the Council Committees on Public Health and Education and on Public Relations and Economics.

Library Fund (Section 56).—Recommendation: "the creation of a fund for a library in order to facilitate the work of the Publication Committee should be referred to the Council for study and action."

The Council delegated this study to the Publication Committee, which has not as yet made a final report.

Manhattan State Hospital—Demolition (Section 55).—The Council was charged with continuing observation of the opposed plan for early demolition of the hospital.

No action has been necessary.

Medical Ethics Committee (Section 77).—Report of reference committee adopted included the following:

"The committee urges the Council to consider an amendment to our constitution setting up a body for the interpretation of medical ethics, to which committee questions could properly be addressed."

See Part XI of Council Report for report on Council study.

Medical Licensure to Graduates of Foreign Medical Schools (Section 75).—

of Delegates:
medical licensure in
New York State whether after examination or

uates of medical schools located in the United States and Canada. Any other method of recognition would constitute the grossest type of discrimination in favor of foreign graduates;

"2. That in the future recognition be accorded graduates of a foreign medical school who apply for license to practice medicine in the State of New York, only when there is in the possession of the Department evidence of the quality of instruction imparted by the school of graduation. This must be of equal quality with the evidence required of approved domestic schools. The identical standard should be applied in approving all medical schools, domestic or foreign."

The stand thus taken was ordered brought to the attention of the State Department of Education through the Secretary and Executive Officer

Medical Preparedness—Funds to Assist County Societies (Section 74).—A resolution was ordered committed to the Council "for such action as they may find expedient." The resolution reads:

"That the Medical Society of the State of New York allot sufficient funds to assist the county committees on medical preparedness where it is evident that such assistance is needed."

The Council in October, 1941, postponed action until the future status of draft board work should be determined. See Part XI of Council Report.

Medical Practice Act—Definition of Word "Antiseptic" (Section 41).—Resolution adopted and ordered presented to the Board of Regents of the University of the State of New York:

"WHEREAS, the word 'antiseptic' has never been clearly defined as used in the Medical Practice Act, Paragraph 2, Section 1262; be it

"Resolved, that for the purpose of administration the term 'antiseptic,' as used in this law, shall be construed to refer to a substance employed for external application only, or to serve as a solution for the sterilization of instruments, the effect in both instances being to prevent or inhibit the growth of microorganisms."

This resolution was presented to the Regents. In December the Executive Officer reported to

the Council that in the opinion of the Attorney General the definition cannot be used legally since no State Department's jurisdiction permits it to interpret the law in such fashion as to grant less than the law itself; that no definition of antiseptic as given in the dictionary or encyclopedia limits its use to external application; the only way in which the definition of the House could be put in operation would be to have it incorporated in the law.

The Legislation Committee still has this under study.

Medical Practice Act—Enforcement and Re-registration Fees (Section 47—Enforcement).—Recommendation adopted: "that further annual reports on the workings of the Medical Practice Act be made to the House of Delegates from year to year."

See Section X of Council Report for this year's report on enforcement.

(Section 48. Re-registration Fees—Disposition) A resolution was referred to the Council for study. It read:

"WHEREAS, the Medical Practice Act of 1930 provides for the payment by every practicing physician of an annual re-registration fee of \$2; and

"WHEREAS, the medical profession was told at the time this law was proposed that the purpose of the fee is to provide the educational authorities of the state with funds with which to control the unlawful practice of medicine in the state with the implied or expressed promise that such fees were to be collected for a period of five years by which time the problem of the control of unlawful practice of medicine was expected to be solved; and

"WHEREAS, this annual fee has been collected annually since the effective date of the new law with no indication that it is not considered a permanent tax; and

"WHEREAS, there are no provisions or, at best, inadequate provisions for the care of indigent physicians in New York State; be it

"Resolved, first, that the Nassau County Medical Society requests an accounting of the monies collected for annual re-registration since the effective date of the new law with a statement as to how such monies were expended; and be it further

"Resolved, second, that a sum of money be set aside from this fund to be made available to the indigent physicians of the state; and be it further

"Resolved, that a portion of the annual re-registration be henceforth allocated for such purposes; and be it further

"Resolved, that the delegates of the Nassau County Medical Society be instructed to present these resolutions to the annual meeting of the House of Delegates of the Medical Society of the State of New York to be held at Buffalo starting April 28, 1941, with the request that the Medical Society of the State of New York sponsor and seek the introduction and passage of such legislation as might be necessary to make effective the purposes of these resolutions."

The Council in Part X reports fully on its study of this matter.

Instead of sending individual letters to the members and officers of the Legislature, the Council authorized that thanks be extended through an editorial in the *JOURNAL*. The editorial, from the June 1, 1941, issue of the *JOURNAL* (p. 1144) follows:

See Your Legislators

The House of Delegates at the One Hundred and Thirty-fifth Annual Meeting of the Medical Society of the State of New York voted unanimously "to adopt an expression of appreciation to the members and officers of the Legislature, and especially to the Governor, for the courteous reception extended to the representatives of the medical profession and the thoughtful consideration they have given medical and public health measures that have come before them."

Legislators are not mindreaders, however disposed they may be to cooperate with their constituents and with the medical profession. They are not mindreaders but lawmakers. To make laws wisely they must be accurately informed. And especially is this true concerning matters medical since such matters are frequently highly technical.

It is, therefore, up to the doctors of medicine who know about these things to keep closely in touch with their representatives not only in Albany but in Washington also. Cooperation implies equal effort on both sides. No legislator can cooperate with an indifferent, silent, or uncommunicative profession. Let every member of this Society get in contact with his representative or senator often. This is an obligation that medicine will neglect at its own peril and that constitutes a disservice to the public.

Hospital Construction Federal Bill S. 1230 (Section 45).—The House adopted a resolution which it had received from the Kings County Medical Society and revised in part to read:

"The Medical Society of the State of New York is informed that the Senate Committee on Education and Labor, of which Senator Mead is a member, has under consideration S. 1230, the Hospital Construction Bill introduced by Senator Brown of Michigan. The Society, through its proper committee, has carefully studied the bill and wishes to file with Senator Mead certain objections to it in its present form:

(1) It objects to the inclusion of an osteopath on the National Hospital Advisory Council. This designation seems unnecessary, for no hospital would be created for that form of treatment alone since it is only a specialized form of treatment.

(2) The bill seems to provide that only projects constructed within the first year shall be supervised by the advisory council. Other projects conceivably will be constructed in later years and the advisory council's authority should be extended to cover these also.

(3) The definition of the term 'hospital' in Section 18 is so worded as to permit of the construction, equipment and operation of health, diagnostic and treatment centers without specifying that there must be available bed capacity. Such centers, we believe, without available bed capacity would not constitute a hospital."

The Council directed Dr. Lawrence, the executive officer, to carry out the instruction to register the objections of the Society to the bill.

Interns—Health and Accident Insurance (Section 42).—The House received a suggestion that legislation be introduced "making it obligatory for hospitals in New York State to provide health and accident insurance for interns serving in their hospitals."

This matter was referred by the Council to its Committee on Public Relations and Economics. See Part X of the 1942 Council Report for action taken.

Invitation to American Medical Association for 1944 Meeting in New York City (Section 70).—The House authorized an invitation to the American Medical Association to hold its 1944 Meeting in New York City.

The invitation was given officially and by the delegates from the State Society. The decision of the A.M.A. House was for St. Louis in 1944.

Laboratory Medicine (Section 55).—In 1940 the House adopted the resolution:

"Be It Resolved That:

"1. The House of Delegates go on record as disapproving laboratory medicine by laymen or nonmedical personnel;

"2. That measures for establishing a proper relationship between city and state departments of health laboratories and physicians who practice pathology be endorsed;

"3. That the work of state and city departments of health be limited to the diagnosis of communicable diseases except where the diagnostic facilities of the state and city health departments are the only diagnostic means available for indigent patients."

In 1941 the House, receiving a report that conferences with representatives of various organizations on this resolution had turned up differences of opinion, adopted a recommendation "that the Council committee continue conferences looking toward the practical adoption of the spirit of the resolution by the laboratories concerned."

Formal conferences have not been held as yet.

Laboratories—Public Health (Section 55).—Recommendation: "Adoption of the principles stated in the proposal and appropriate action thereon by county medical societies and laboratory directors throughout the state." (See proposals in the *JOURNAL* for April 1, 1941.)

Formal meetings have not been held but there has been frequent informal contact with representatives of the Department of Health and of the Public Laboratories in the state, through the Council Committees on Public Health and Education and on Public Relations and Economics.

Library Fund (Section 56).—Recommendation: "the creation of a fund for a library in order to facilitate the work of the Publication Committee should be referred to the Council for study and action."

The Council delegated this study to the Publication Committee, which has not as yet made a final report.

Manhattan State Hospital—Demolition (Section 55).—The Council was charged with continuing observation of the opposed plan for early demolition of the hospital.

No action has been necessary.

Report of the Treasurer

To the House of Delegates; Gentlemen:

The financial status of the Society is shown by the following figures taken from the annual report of the auditors, Messrs. J. K. Lasser & Co., for the year 1941.

Attention might be called to a few of the items contained in it. Due to the general condition of the security market in these troubled times, there has been during the year a depreciation in the market value of our holdings of about \$8,800, but in spite of this depreciation our balance has increased by about \$14,500. This favorable financial result of a year's activities is due to our income from investments and bank balances of about \$12,300 and to the excess of dues income over operating expenses of about \$11,000.

This balance does not quite show the complete picture, however, for there are the inventories and other assets on the one side to be considered, and the liabilities on the other. The inventories and other assets total \$11,600 and the liabilities about \$8,200, so there is a favorable balance between these two items of about \$3,400. In last year's report the liabilities exceeded the inventories and other assets by \$1,400, so that in this respect we are better off than last year by about \$4,800. This should be added to

the increase in our balance, giving a figure of about \$19,300.

I wish that we could hope for a similar favorable balance next year, or even any kind of favorable balance, but the indications are all pointing in the opposite direction, with an ever increasing number of our members entering the armed services of the United States, and with the cost of materials and supplies rising sharply.

The extent to which we will suffer financially during the present fiscal year (1942 calendar year) cannot be estimated with any accuracy at the time that this report is written (March 1), but it is evident that strict economy will have to be practiced by all of us, and it is very probable that in addition some drastic curtailment of activities and services may be necessary if our expenses are to be kept from far exceeding our total income.

In closing I wish to thank those members of the office staff, who have the keeping of the books and the care of the other financial details of the Society, for the conscientiousness and accuracy with which they have performed their duties and for their cheerful cooperation.

Respectfully submitted,
KIRBY DWIGHT, M.D., *Treasurer*

March 1, 1942

Auditors' Statement

We have completed an examination of the balance sheet of the Medical Society of the State of New York as of December 31, 1941, and the statements of income and capital for the year ended with that date, and have reviewed the system of internal control and the accounting procedures of the Society, have examined or tested accounting records of the Society and other supporting evidence by method and to the extent we deemed appropriate.

In our opinion, the accompanying balance sheet and related statements of income and capital present fairly the position of the Society at December 31, 1941, and the results of its operations for the year ended that date.

Respectfully submitted,

J. K. LASSER & Co.,
Accountants & Auditors

February 2, 1942

Medical Relief (Section 72).—Resolution adopted:

"WHEREAS, the indigent of the City of New York are provided with medical care through a plan devised by the Medical and Nursing Service for Home Care; and

"WHEREAS, these same indigents require ambulatory care for which no provision is made; and

WHEREAS, the physicians of the City of New York are supplying this ambulatory care without remuneration; be it

"Resolved, that the Bronx County Medical Society recommend that provisions be made for the ambulatory care of indigent patients in the office of the private practitioners and that the physicians be adequately remunerated for this care; and be it further

"Resolved, that these resolutions be introduced at the House of Delegates at the meeting of the New York State Medical Society in April, 1941."

This matter was referred by the Council to its Subcommittee on Medical Relief.

Motor Vehicle Drivers—Medical Examinations (Section 47).—Recommendation adopted: that the following portion of the 1941 Council Report be referred back to the Council for further study and recommendation. That reads:

"Regarding drunken drivers, tests are now available to determine alcoholic content in the blood and legislation is contemplated which will permit such tests to be made where accidents have occurred. The medical profession has not as yet passed upon the proposed tests, but at least two other states have incorporated them in their restrictions."

See Part XI of Council Report for further report.

Physicians' Benevolence Fund (Section 56).—The House referred to the Council the question of creation of a Benevolence Fund for relief of physicians incapacitated by age, infirmities, and actual poverty.

The Council has received report from a committee which it appointed that in the opinion of Legal Counsel a plan originally advanced by Dr. Kosmak is legal. It is the understanding of the Council that Dr. Kosmak will present an enabling amendment to the Constitution and Bylaws.

School Health Program (Section 37).—The House adopted a recommendation:

"That the Council be instructed by this House of Delegates to continue its efforts along the present lines to the end that doctors be put in charge of health and health problems among children of school age, eventually bringing back to the Department of Health the health of our school children, because this is certainly where it belongs, and Health Education should be continued under the guidance of educators, whether lay or medical."

The Council has continued its efforts through its subcommittee. See Section III of Council Report.

Special Committees to Be Continued (Sections 39 and 56).—The House directed that the two special committees on Publication and on Office Administration and Policies be continued, to consist of the same officials: the general manager; the director of the Public Relations Bureau, who is also business manager of the *JOURNAL and Directory*; the literary editor; the treasurer; and a separate member of the Board of Trustees on each committee.

Tattoo Code for Serum Sensitive (Section 55).—Recommendation adopted:

"That the Council of this Society be instructed to draw up a resolution to be presented to the American Medical Association at its meeting in June this year, requesting the American Medical Association to appoint a committee to study this question and take suitable action thereon."

A resolution was presented to the House of Delegates of the American Medical Association on June 2, 1941, where the matter was referred to the Council on Scientific Assembly for study and such action as its Board of Trustees might order.

Thoracic Diseases—Symposium (Section 44).—The House, receiving a request for creation of a new "Session on Thoracic Diseases," requested instead that the Council "consider the incorporation of a symposium on thoracic diseases."

The Council approved a decision by its Subcommittee on Scientific Program of its new Committee on Convention to devote one of the two general sessions at the 1942 Meeting to thoracic diseases.

Women Physicians for Army and Navy Medical Corps (Section 69).—The House instructed the Delegates of the State Society to introduce a resolution in the meeting of the American Medical Association House of Delegates, favoring admission of women physicians to the Medical Corps of the Army and Navy.

This instruction was carried out on June 2, 1941. The resolution was defeated.

Workmen's Compensation (Section 58).—The House adopted recommendations:

1. For modification of Section 13-g(2) to remove necessity of the Medical Society arbitrating hospital bills.
2. Revision of Statute Subsection 13-g to include a sentence to enforce payment of "bills not objected to" without necessity of court action.
3. Amendment to Section 13-g(2) so that disputes in regard to the payment of a bill because of alleged failure of a physician to obtain authorization should be arbitrated.

The suggested amendments were referred to the Legislative Committee by the Council.

The House referred to the Council for further consideration the question of placing the director of the Workmen's Compensation Bureau on a full-time instead of part-time basis.

The Council after study decided not to change the basis of employment of the director.

CASH IN BANKS AND ON HAND
December 31, 1941

	Regular Funds	Investment Funds	Total
CHECKING ACCOUNTS			
Guaranty Trust Company.....	\$20,214.74		\$ 20,214.74
National City Bank of New York	4,971.84		4,971.84
The Chase National Bank.....	2,401.53	\$ 5,405.65	\$ 7,807.18
	<u>\$27,588.11</u>	<u>\$ 5,405.65</u>	<u>\$ 32,993.76</u>
SAVINGS ACCOUNTS			
Various Savings Banks.....	\$28,568.57	\$ 14,053.18	\$ 42,621.75
PETTY CASH FUNDS—OFFICE			
	\$ 600.00		\$ 600.00
TOTAL	<u>\$56,756.68</u>	<u>\$ 19,458.83</u>	<u>\$ 76,215.51</u>

PRIZE FUNDS

	On Deposit Union Dime Savings Bank
Lucien Howe Prize Fund.....	\$ 1,539.85
Merritt H. Cash Prize Fund.....	762.78
A. Walter Suiter Lectureship Fund.....	1,177.88
TOTAL	<u>\$ 3,480.51</u>

SECURITIES

The investments of the Society (General Fund) may be summarized as follows:

	At Cost
Bonds and Mortgages.....	\$153,763.28
Stocks.....	139,581.34
TOTAL	<u>\$293,344.62</u>

All of these securities are in the possession of the Chase National Bank as Custodian for the Trustees of the Medical Society of the State of New York.

**CONDENSED STATEMENT OF OPERATING INCOME AND EXPENSES FOR THE YEAR
ENDED DECEMBER 31, 1941**

OPERATING INCOME			
Members' Dues—Current Year 1941.....	\$170,825.00		
Prior Years.....	2,237.00		
Net Income from 1941 and 1940 Annual Meetings	<u>3,307.02</u>	\$176,369.02	
OPERATING EXPENSES			
Administrative.....	\$ 44,752.42		
Public Relations.....	21,438.90		
Legislative.....	16,344.74		
Net cost of 1941–1942 Directories Distributed.....	18,096.93		
Net cost of 1939–1940 Directories Distributed.....	2,921.18		
Net Cost of Journals.....	15,847.58		
Counsel Retainer Fees and Expenses.....	12,453.47		
Traveling Expenses.....	9,727.49		
Workmen's Compensation Bureau.....	8,836.09		
Scientific Activities.....	9,522.17		
Pension to Retired Office Manager.....	3,000.00		
District Branch Executive Committee Meetings.....	1,910.91	164,851.88	
EXCESS OF OPERATING INCOME OVER OPERATING EXPENSES		<u>\$ 11,517.14</u>	

Balance Sheet—December 31, 1941

ASSETS			
GENERAL FUND			
CURRENT ASSETS			
Cash in banks and on hand.....			\$ 76,215.51
Accounts Receivable—Advertisers.....	\$ 2,794.33		
Others.....	935.35		
	\$ 3,729.68		
Less: Reserve for Doubtful Accounts.....	503.93		3,225.75
Dues Receivable.....			14,580.00
Securities—			
At Market Value (Cost \$293,344.62).....	\$246,286.75		
Accrued Interest Receivable.....	4,304.83		250,591.58
Inventories—At Cost:			
Paper Stock.....	\$ 5,510.13		
Stationery and Supplies.....	1,761.72		7,271.85
			\$351,884.69
OTHER ASSETS			
1941-1942 Medical <i>Directories</i> on Hand—At Cost.....			3,861.27
Advance Costs in Connection with 1942 Operations.....			548.00
FURNITURE AND FIXTURES			
At Nominal Value.....			2.00
			\$356,295.96
ENDOWMENT FUNDS			
CASH IN BANK.....			\$ 3,480.51
SECURITIES			
At Market Value (Cost \$5,808.75).....	\$ 4,477.50		
Accrued Interest Receivable.....	27.09		4,504.59
			\$ 7,985.10
TOTAL ASSETS.....			\$364,281.06

LIABILITIES AND CAPITAL			
GENERAL FUND			
CURRENT LIABILITIES			
Accounts Payable			
Paper and Envelopes for JOURNAL.....	\$ 3,975.89		
Office Expenses, Supplies, Commissions.....	476.90		\$ 4,452.79
DEFERRED INCOME			
Prepaid Subscriptions to JOURNAL.....	\$ 808.63		
Prepaid 1942 Membership Dues.....	2,010.00		
Excess of Receipts over Disbursements			
in connection with 1942 Annual Meeting.....	984.36		3,802.99
			348,040.18
CAPITAL—(page 680).....			\$356,295.96
ENDOWMENT FUNDS			
CAPITAL			
Lucien Howe Prize Fund.....	\$ 3,765.27		
Merritt H. Cash Prize Fund.....	1,848.62		
A. W. Suiter Lectureship Fund.....	2,371.21		
	\$ 7,985.10		
TOTAL LIABILITIES AND CAPITAL.....			\$364,281.06

volve expenditure of money to plan seriously on the cutting down of their outlays and the making of substantial budgetary savings."

The Board is glad to report that the financial condition of the Society continues sound and that so far the Society has lived within its income from dues without embarrassing curtailment of its activities or the shirking of any of its truly important duties and responsibilities. Serious concern for the future along financial as

well as other lines, however, is distinctly in order.

Respectfully submitted,

EDWARD R. CUNIFFE, M.D.
WILLIAM H. ROSS, M.D.
THOMAS M. BRENNAN, M.D.
GEORGE W. KOSMAK, M.D.
WILLIAM A. Groat, M.D., *Chairman*

March 9, 1942

Report of the Counsel

To the House of Delegates; Gentlemen:

Your Counsel herewith submits his report of the activities of the Legal Department of the Medical Society of the State of New York for the period from February 1, 1941, to and including January 31, 1942.

Brevity is the objective to be sought in the making of a report of this character. Thus, only the barest outline of the work done in our Department can be given. This, of course, does not give any adequate picture of the work done or the responsibility assumed by our Department.

At the outset of this report, we wish to record our grateful appreciation for the assistance and cooperation furnished by your officers and your committeemen.

In making his report, your Counsel adheres to the convenient category employed in previous years whereby his activities have been divided into three main divisions: (a) the actual handling of malpractice actions before courts and juries and in the appellate tribunals; (b) counsel work with officers, committees, and individual members of the Society; and (c) legislative advice and activities.

Litigation.—For a number of years we have called to the attention of the membership the dangers of careless, hasty, and unjustified criticism by one physician of the work of another. We feel it necessary to do so again this year. In these times of unrest and economic distress not much is needed to plant in the mind of a patient the idea of a malpractice action. While the matter is not susceptible of definite proof, we feel that we state a fact when we say that many malpractice actions stem from just such criticism. The fact that the physician does not, in many instances, intend that his remarks shall result in a malpractice action, does not help the situation. When the criticism is made, the damage has been done.

It is almost unnecessary to call to the attention of your membership the ever present hazard of a malpractice action to the practicing physician, nor should it be necessary to note that the rights of the physicians in malpractice actions are in the hands of lay jurors, who frequently are unduly influenced by factors that do not go to the merits of the case. While theoretically sympathy, passion, prejudice or bias have no place in the jury box, as a practical proposition we know that jurors are rendering verdicts every day in our courts where these elements or some of them are responsible for the verdict.

It is difficult to understand why more of the members of your Society do not avail themselves of the Group Plan of insurance sponsored

by the State Society. We have yet to meet a physician facing a lawsuit without this insurance who did not voice deep regret over his failure to take advantage of the benefits of the Group Plan. The Group Plan deserves and should receive the loyal support of every member of the Society. It has been in operation for some twenty years and its outstanding success is a matter of record.

At this point mention should be made of the Yorkshire Indemnity Company, the carrier under your Group Plan. This company is now entering its seventh year as such carrier. It has lived up in every way to all of its obligations and, in addition, has demonstrated its genuine and enthusiastic interest in the successful operation of our Group Plan. Appreciation should be recorded of the cooperation furnished by Mr. Horace Crowell, Jr., claim agent of the Yorkshire Indemnity Company, with whom your Counsel and office staff are in almost daily conference and consultation.

Mention should also be made of the splendid work of your Insurance Committee headed by Dr. Clarence G. Bandler. We have conferred on a number of occasions during the reporting period with Dr. Bandler with relation to the problems before the Insurance Committee.

We also have conferred with Mr. Harry F. Wanvig, the authorized insurance indemnity representative, and with his office staff on various matters pertaining to the operation of the Group Plan.

For many years I have recorded in this report my deep appreciation for the splendid work of my associates, Mr. William F. Martin and Mr. Thomas H. Clearwater.

Mr. Martin's reputation in the defense of malpractice actions is well and favorably known throughout the entire state. His experiences in this field for fourteen years have won for him expressions of the highest approval from judges, lawyers, and doctors in all parts of the state, not only for his exceptional ability as an advocate but for his fine personal qualities as well.

Mr. Thomas H. Clearwater, the Attorney for your Society, has had close contact for many years with the members of your Society and with its officers and committeemen. Mr. Clearwater is a gentleman of exceptional ability and character, and he has rendered to your Counsel at all times the fullest measure of cooperation and support.

We cannot leave this subject without paying tribute to the splendid spirit of industry, loyalty, and devotion manifested by your Counsel's entire staff, both legal and clerical.

With this preliminary statement, we note

ANALYSIS OF FINANCIAL INCOME, EXPENSE, AND CAPITAL
FOR THE YEAR ENDED DECEMBER 31, 1941

	General Fund	Lucien Howe Prize Fund	Merritt H. Cash Prize Fund	A. W. Suiter Lecture- ship Fund
JANUARY 1, 1941, BALANCE.....	\$333,562.10	\$3,818.26	\$1,829.09	\$1,942.28
Additions—				
Excess of Operating Income over Operating Expenses.....	11,517.14			
Interest on Bank Balances.....	830.57	27.01	14.53	13.64
Income from Securities.....	11,536.55	102.50	35.00	100.00
Additional Income from Estate.....				70.50
Additional Capital from Estate.....				369.79
	<u>\$357,446.36</u>	<u>\$3,947.77</u>	<u>\$1,878.62</u>	<u>\$2,496.21</u>
Deductions—				
Depreciation in Market Value of Securities Owned.....	\$ 5,644.30	\$ 82.50	30.00	75.00
Loss on Sale of Securities.....	3,227.53			
Custodian and Investment Service Fees.....	534.35			
Prize Awards.....		100.00		50.00
	<u>\$ 9,406.18</u>	<u>\$ 182.50</u>	<u>\$ 30.00</u>	<u>\$ 125.00</u>
DECEMBER 31, 1941, BALANCE.....	<u>\$348,040.18</u>	<u>\$3,765.27</u>	<u>\$1,848.62</u>	<u>\$2,371.21</u>

Report of the Board of Trustees

To the House of Delegates; Gentlemen:

I have the honor to report for the Board of Trustees on its supervision of the financial affairs of the Society since your last meeting on April 29, 1941.

At that meeting there were passed amendments to the bylaws of the Society changing the fiscal year to coincide with the calendar year. It became necessary, therefore, first, that the Council present, and the Board of Trustees approve, a budget for the six months from July 1, 1941, to December 31, 1941. This was done, and then later a budget for the full year 1942 was set up and approved in similar fashion.

Contract renewals were made with the Executive Officer and with Mr. Kent Lighty for securing advertisements for the *JOURNAL and Directory* and for sale of technical exhibit space for the 1942 Annual Meeting. Re-employment of Mr. Brosnan as legal counsel, Mr. Clearwater as attorney, and Dr. Kaliski as director of the Bureau of Workmen's Compensation was effected.

On recommendation of the Council that Dr. Irving and Dr. Lawrence attend the meetings of the House of Delegates of the American Medical Association, the Board authorized payment of travel expenses on the same basis as for the elected delegates.

The investments of the Society have been the subject of close and constant study, in the double effort to maintain income from securities and at the same time to keep the funds invested as

sound as possible in these times. Upon advice of the Chase National Bank, some securities have been sold and others purchased.

In view of the policy adopted of remitting state assessments for members who went into military or naval service before June 1, 1941—and a considerable increase is expected before June, 1942—the Board has counseled all officers and chairmen of committees to pay particular attention to the limitation of expenditures. The following letter, signed by the chairman at the instance of the Board, was sent to those concerned, on January 17, 1942.

"At its meeting on January 8, 1942, the Board of Trustees requested me as its chairman to transmit to the administrative officers of the Society and the chairmen of all Council Committees a memorial urging them to conserve their Society resources by limiting their expenditures.

"This decision was reached after the Board had considered probable diminution in income that would develop from increased remissions of state assessments because of active military and naval service. In addition, the Board felt that rising taxes and interference with ordinary business might so disturb the financial status of other members that they might be unable to pay their dues. It seems the part of wisdom, therefore, for all concerned with the various Society activities that in-

TABLE 2.—NUMBER OF MEMBERS INSURED DURING REPORTING PERIOD, THE NUMBER OF MEMBERS IN THE COUNTY SOCIETIES, AND THE PERCENTAGE OF INSURED MEMBERS*

	1941-1942		
	A	B	C
Albany.....	307	176	57
Alleghany.....	38	11	29
Bronx.....	1,448	566	39
Broome.....	203	98	48
Cattaraugus.....	69	29	42
Cayuga.....	68	42	62
Chautauqua.....	106	59	56
Chemung.....	92	58	63
Chenango.....	35	19	54
Clinton.....	45	29	64
Columbia.....	41	10	24
Cortland.....	37	14	38
Delaware.....	37	19	51
Dutchess.....	178	37	21
Erie.....	924	346	37
Essex.....	35	12	34
Franklin.....	58	28	48
Fulton.....	56	32	57
Genesee.....	41	24	59
Greene.....	32	19	60
Herkimer.....	56	27	48
Jefferson.....	91	52	57
Kings.....	2,965	1,218	41
Lewis.....	17	11	65
Livingston.....	45	14	31
Madison.....	47	20	43
Monroe.....	573	268	47
Montgomery.....	60	14	23
Naasau.....	476	263	55
New York.....	5,375	2,761	51
Niagara.....	155	65	42
Oneida.....	246	119	48
Onondaga.....	407	220	54
Ontario.....	80	36	45
Orange.....	181	96	53
Orleans.....	22	8	36
Oswego.....	53	34	64
Otsego.....	68	31	46
Putnam.....	16	5	31
Queens.....	1,101	593	54
Rensselaer.....	126	73	58
Richmond.....	135	54	40
Rockland.....	101	37	37
St. Lawrence.....	79	26	33
Saratoga.....	64	34	53
Schenectady.....	155	88	57
Schoharie.....	18	17	94
Schuyler.....	11	5	45
Seneca.....	29	13	45
Steuben.....	81	45	56
Suffolk.....	238	119	50
Sullivan.....	54	30	56
Tioga.....	30	13	43
Tompkins.....	82	37	45
Ulster.....	85	27	32
Warren.....	64	28	44
Washington.....	49	17	35
Wayne.....	68	31	45
Westchester.....	748	421	56
Wyoming.....	37	12	32
Yates.....	26	16	62
	18,164	8,627	47

* A—number of members in county society; B—number of members insured; C—percentage insured.

physician who, upon entering the military service, turns over his practice to another physician on a percentage basis.

21. Inquiry concerning the legal consequences of a verbal consent to operation as distinguished from a written consent.

Other Counsel Activities.—Your Counsel, acting with the Committee on Bylaws, examined various proposed amendments to the Constitution and Bylaws of a number of component county societies and has rendered advice and made suggestions in connection therewith.

Your Counsel drew the contracts between Mr. Kent Lighty and the State Society with reference

to advertising matter in the NEW YORK STATE JOURNAL OF MEDICINE, the *Medical Directory of New York, New Jersey, and Connecticut*, and the Commercial Exhibits.

Your Counsel drew the contract between the Society and Dr. Joseph S. Lawrence, its executive officer.

Your Counsel drew the contract between the Society and Dr. Peter Irving, its secretary and general manager.

Your Counsel also drew the contract between the Society and Mr. Dwight Anderson, as director of the Public Relations Bureau and business manager of the NEW YORK STATE JOURNAL OF MEDICINE and the *Medical Directory of New York, New Jersey, and Connecticut*.

Your Counsel has conferred at various times with members of the various committees on certain phases of their work.

Your Counsel attends and advises at the monthly meetings of the Council of your Society.

Your Counsel is constantly in communication by telephone and letter with Dr. Peter Irving, secretary and general manager of the Medical Society of the State of New York, with regard to the many questions which arise almost daily in connection with his work.

It should also be noted that daily telephone calls from members of the Society come to your Counsel and his office staff, which require advice and assistance on various problems. Most of these telephone inquiries present emergency situations which cannot be handled by correspondence.

Legislative Advice and Activities.—During the period of time that the Legislature was in session in 1941, your Counsel examined certain bills affecting the medical profession and gave advice with respect thereto, and conferred with the Executive Officer of the Society regarding such bills on various occasions.

Mr. Clearwater attended the Annual Conference of the Council Committee on Legislation with the Chairmen of the County Society Legislation Committees held at Albany.

At the time of the writing of this report, your Counsel has already been in conference with the Executive Officer and numerous other persons with respect to certain bills before the Legislature at its current session. Of particular importance among said bills presently before the Legislature is that designed to modify the Statute of Limitations on malpractice actions, which bill your Counsel has been and is continuing to oppose vigorously.

At present, the Statute of Limitations applicable to malpractice actions provides that such cases must be instituted within two years after their accrual. By said bill, it is proposed to change the law so that such actions must be commenced within one year after their accrual with the proviso that they are not deemed to have accrued until discovery of malpractice by the patient and with the further proviso that in no event shall they be brought more than six years after the treatment of the case.

Upon cursory analysis, the bill would seem to have some merit, but it is your Counsel's opinion that possible advantages of the proposed legislation would be far outweighed by the fact that physicians would be subjected to numerous actions instituted as much as six years

that there were commenced within the present reporting period 153 cases. These figures, of course, do not include a number of claims outstanding on which suit may ultimately be brought. Of equal importance with the actual work of litigation is the preventative work done by your Counsel and his office staff. Throughout the year we are in consultation with many claimants and their attorneys and frequently we have been successful in demonstrating to them in fact and in law that no valid claim exists. Thus these claims never reach a suit stage.

Table 1 shows that during the present reporting period we disposed of 146 cases. Fifty-two of these cases were settled and 89 terminated successfully in favor of the physician. In 5 cases there were judgments for the plaintiff.

We note from Table 1 that there were pending as of January 31, 1942, 413 cases.

Table 2 gives the number of members insured during the reporting period, the number of members in the county societies, and the percentage of insured members.

Counsel Work.—During the period of this report, your Counsel prepared for the Society's JOURNAL articles in the nature of editorial comment. These articles have included the following: Responsibility of Physician for Acts of Nurse; Responsibility of Surgeon for Care Following Operation; Physicians and Surgeons—Evidence of Malpractice; Liability of Surgeon in Needle Breaking Case; Workmen's Compensation—Alleged Fraud in Physician's Report; Licensing of Foreign Physicians; Privilege—Public Health Records; Wrongful Death Case—Failure of Proof.

At the request of the House of Delegates, your Counsel has also prepared for publication in the JOURNAL a number of inquiries and the answers to the same which have been received from members of the Society seeking information on legal questions considered to be of general interest to the profession.

In addition, your Counsel has prepared for publication in the JOURNAL several digested reports of cases handled by your Counsel which were considered to be of interest to the members of the profession.

Your Counsel is pleased to learn from the members of your Society, from time to time, that they enjoy reading these reports and articles and that they find them to be interesting and instructive.

In addition to his other duties, your Counsel receives frequent requests for opinions, orally and in writing, on various topics. Some of the matters upon which advice has been given (in writing) are the following:

Inquiries.—1. Inquiry from a physician as to the propriety of revealing confidential and professional information obtained in examining applicants for factory employment.

2. Inquiry regarding the legality of use of nonhusband donor for artificial insemination.

3. Several requests for information regarding the recent amendments to the Education Law relating to interns and residents.

4. Request for an opinion concerning the extent to which an intern, resident, or medical student may legally practice medicine.

5. Inquiry as to the liability of a hospital

TABLE 1.—NUMBER OF SUITS INSTITUTED AND DISPOSED OF IN 1941-1942

	Instituted 1941-1942 (12 months)	Disposed of 1941-1942 (12 months)
1. Fractures, etc.....	14	10
2. Obstetrics, etc.....	13	9
3. Amputations.....	2	1
4. Burns, x-rays, etc.....	22	21
5. Operations: abdominal, eye, tonsil, ear, etc.....	38	51
6. Needles breaking.....	1	2
7. Infections.....	17	11
8. Eye infections.....	1	6
9. Diagnosis.....	12	17
10. Lunacy commitments.....	2	
11. Unclassified-medical....	31	18
Totals.....	153	146
Actions for death.....	24	22
Infants' actions.....	12	12
Totals.....	36	34
<i>How Disposed of</i>		
Settled.....		52
Terminated in favor of defend- ant physician.....		89
Judgment for plaintiff.....		5
		146

Pending on January 31, 1941.... 406
Pending on January 31, 1942.... 413

Board of Managers for the acts of doctors, interns, nurses, or others associated with the hospital.

6. Request for information as to whether resident physicians must be licensed.

7. Inquiry as to the legality of an arrangement whereby a practicing physician has associated with him a nonlicensed physician.

8. Request for information as to the method of incorporating a Medical Society.

9. Inquiry concerning remuneration for the care of relief cases.

10. Inquiry with respect to the necessity for written consent to operations.

11. Inquiry as to the right to collect a fee when a substitute attends a patient during delivery.

12. Request for advice as to whether a practitioner licensed in New York is entitled to practice medicine in Massachusetts.

13. Inquiry as to the responsibility of a physician for the acts of a doctor taking over his practice when the former enters the military service.

14. Request for an opinion from a physician as to his right to reveal confidential information (a) to another physician and (b) to an insurance company.

15. Requests for forms of consent to operation.

16. Inquiry as to the right to perform a postmortem cesarean without permission.

17. Inquiry as to the right to perform sterilization operations where no medical reason exists.

18. Inquiry as to the right of a physician to utilize the services of a nonnurse assistant in the administration of diathermy treatment.

19. Inquiry as to the necessity of operative consent in cases involving minors.

20. Inquiry as to the legal responsibility of a

Telegraph Company, New York City; Occupational Diseases, Dr. Irving Gray, chairman, Committee on Industrial Health, Medical Society of the County of Kings, slide demonstration; The Prevention of Infection in Injury, Dr. Samuel Potter Bartley, chief, Traumatic Clinic, Long Island College Hospital, Brooklyn; Placement of the Handicapped, Murray Nathan, member of administrative staff, New York State Employment Service, Albany; Rehabilitation, Dr. Henry H. Kessler, medical director, New Jersey State Rehabilitation Clinic, Newark, New Jersey. A sound film was shown.

At the afternoon session we were especially honored in having as our guest speaker Dr. Frank H. Lahey, director of the Lahey Clinic in Boston and president of the American Medical Association. Dr. Lahey talked on Diseases of the Thyroid Gland. An exceptionally fine slide demonstration accompanied the address.

Between the morning and afternoon sessions, a luncheon was held at the hotel attended by 188 physicians and members of the woman's auxiliaries of the four component county societies of the Second District Branch.

We were addressed after the luncheon by Dr. Samuel J. Kopetzky, president of the Medical Society of the State of New York. Dr. Frank Lahey also spoke at this time.

At the morning meeting the auxiliaries heard Dr. Luvia M. Willard, president of the American Women's Hospital Reserve Corps. Dr. Kopetzky, president, and Dr. Joseph Lawrence, executive officer of the State Society, talked to the auxiliaries in the afternoon.

In addition to Dr. Kopetzky and Dr. Lawrence, other State Society officials present at our meeting were Dr. Peter Irving, secretary and general manager; Dr. Louis H. Bauer, speaker of the House of Delegates; Dr. William H. Ross, trustee; Drs. Herbert H. Bauckus and Augustus J. Hambrook of the Council; and Mr. Dwight Anderson, director, Public Relations Bureau.

During this year I have visited the four component county societies in the Second District Branch.

Respectfully submitted,

BURDGE P. MACLEAN, M.D., President
February 13, 1942

Report of the Third District Branch

To the House of Delegates; Gentlemen:

A successful meeting of the Third District Branch was held at Catskill on September 30, 1941, at which time an unusual and unique program was presented.

Approximately seventy-five doctors attended the meeting, with a good representation of each county society of the Branch. The morning session was given up to the chairmen of the standing committees of the Medical Society of the State of New York, each giving a résumé of his own work and problems.

An excellent luncheon was served at noon, and Dr. Samuel J. Kopetzky, New York City, president of the State Society, was the speaker. In the afternoon the chairmen of the Council committees of the State Society met at a round-table discussion with the chairmen of the corresponding standing committees of each county

society. Branch. and educational, and I feel that each doctor went back to his own county medical society with a message of inestimable value concerning the workings of the State Medical Society.

I believe this type of meeting should be rotated around the various district branches at least once a year, for what our Branch learned at this meeting gave us an entirely different slant on the general workings of the State Medical Society.

Respectfully submitted,

MAHLON H. ATKINSON, M.D., President

March 10, 1942

Report of the Fourth District Branch

To the House of Delegates; Gentlemen:

The thirty-fifth annual meeting of the Fourth District Branch was held on Friday and Saturday, September 26 and 27, 1941, at the Lake Placid Club. The Essex County Society was the host Society.

The meeting was called to order at 2:00 P.M., daylight-saving time, and the first order of business was the presentation of a memorial in honor of our president, Dr. E. Harrison Ormsby, who had died on July 18, 1941. This memorial was written by a committee of Dr. H. S. Howard, of Minerville, and Dr. C. K. Tomlinson, of Amsterdam. It was presented by Dr. Stephen H. Curtis, of Troy. A motion was passed that this memorial be spread upon the minutes of the District and that a copy be sent to Dr. Ormsby's family.

The scientific program was devoted to a Symposium on Tuberculosis. There were four papers: The first was on "Tuberculosis Control and Case Finding in a Rural Community" by Dr. Richard Nauen of the New York State Hospital for Incipient Tuberculosis at Ray Brook. Dr. Beverly L. Vosburgh, of Schenectady, spoke on "Tuberculosis in Industry," and Dr. Fred H. Heise, medical director of Trudeau Sanatorium, spoke on the "Management of Pulmonary Tuberculosis." Dr. Warriner Woodruff, of Saranac Lake, discussed the "Role of Surgery in Pulmonary Tuberculosis."

While the afternoon session was in progress, the Women's Auxiliary of the Essex County Medical Society sponsored a trip up Whiteface Mountain for the visiting ladies.

The annual dinner was held that evening in the dining room of the Lake Placid Club. Dr. Samuel J. Kopetzky, president of the Medical Society of the State of New York, addressed the Society with particular reference to our part in the war. Following this, Dr. F. Leslie Sullivan, of Scotia, introduced Mr. James Stewart, who gave an interesting account of his experiences on the ship *Zanzam* when it was captured and sunk by a German raider, and his further experiences in concentration camps and his escape. During the banquet, music was furnished by the Lake Placid Club Orchestra.

The Saturday meeting was called to order at 10:00 A.M. and the morning was devoted to a Symposium on War Surgery. Dr. John Scudder, of New York City, was the first speaker, his topic being "Blood Studies in Shock as a Guide

after treatment, in which fraudulent claims of delayed discovery of malpractice would be made the basis of evading the Statute of Limitations. Instead of cutting the statutory period from two years to one year, the practical effect of the bill would be to extend that period from two years to six years.

Conclusion.—In closing this report your Counsel wishes to record his appreciation for the work of his office staff, and also to note with grateful thanks the advice and assistance of the members

of your Society who have helped us both in court and by consultation in the defense of malpractice actions.

Without the cooperation and assistance of all concerned, it would not be possible for your Counsel to have obtained the results shown in this report.

Respectfully submitted,

LORENZ J. BROSNAN, *Counsel*

January 31, 1942

Amendments to Constitution and Bylaws

To the House of Delegates; Gentlemen:

At your last meeting notice was given of two amendments to the Constitution which will come before you for action at your coming meeting on April 27, and which in accord with our Constitution are published in advance of that meeting. This will not go before a reference committee, but to you as a whole. Under our present Constitution, "a two-thirds vote of the members of the House of Delegates present and voting shall be necessary for adoption."

The first is a proposed amendment to Article IV of the Constitution, which reads:

"There shall be a Council composed of the president, the president-elect, the immediate past-president, the secretary, the treasurer, the speaker, and nine other members elected by the House of Delegates."

The proposed amendment is to insert after the word "speaker" the words "chairman of the Board of Trustees" so that as amended it will read:

"Article IV—Council"

"There shall be a Council composed of the president, the president-elect, the immediate past-president, the secretary, the treasurer, the speaker, the chairman of the Board of Trustees, and nine other members elected by the House of Delegates."

The second amendment proposed is to Chapter 7 of the Bylaws, to be Section 13 as follows:

"Any officer of the Medical Society of the State of New York or its district branches, who is called into active service with the armed forces of the United States, may, upon application to the Council, be granted leave of absence for any portion of his term of office during which he is on active service. During such absence, his duties shall be delegated as the Council may direct except where such delegation is already provided for elsewhere in the Bylaws."

Respectfully submitted,

LOUIS H. BAUER, M.D., *Speaker*

March 9, 1942 PETER IRVING, M.D., *Secretary*

Report of the First District Branch

To the House of Delegates; Gentlemen:

The annual meeting of the First District Branch was held at the Mount Sinai Hospital, New York City, on October 8, 1941.

The meeting, extending from 9:00 A.M. to 5:00 P.M., followed the general pattern of the previous few years and served as a "one-day postgraduate course." The attendance reached an all-time high, and during the day there were almost six hundred registrants.

Arranged by the Hospital Committee on Medical Instruction under the able chairmanship of Dr. Reuben Ottenberg, over one hundred members of the staff collaborated to cover every branch of medicine and surgery except obstetrics and contagion. Lectures; clinics, both dry and operative; ward rounds; exhibits; demonstrations and motion pictures; all were skillfully integrated to produce a complete "refresher session" and to present "What Is New."

To Dr. Ottenberg and his associates is extended full credit for the excellent arrangement and faultless execution of an elaborate program.

Through its director, Dr. Joseph Turner, appreciation is extended to the hospital for an excellent luncheon.

At luncheon, in the unavoidable absence of Dr. Samuel J. Kopetzky, president of the State Society, Dr. William A. Krieger, the vice-president, briefly addressed the meeting. His remarks were timely and well received.

Respectfully submitted,

ALEXANDER N. SELMAN, M.D., *President*

February 12, 1942

Report of the Second District Branch

To the House of Delegates; Gentlemen:

The annual meeting of the Second District Branch was held at the Garden City Hotel, Garden City, on October 30, 1941.

Exhibits of a unified County Cancer Program were furnished through the Nassau County Cancer Committee, Meadowbrook Hospital, and New York Memorial Hospital. The exhibits on industrial accidents and industrial diseases were furnished by the New York State Department of Labor.

The morning session was devoted to a Symposium on Industrial Medicine and was ably covered by the following programs: Pre-Placement Examination, Dr. Cassius H. Watson, medical director, American Telephone and

Report of the Seventh District Branch

To the House of Delegates; Gentlemen:

The annual meeting of the Seventh District Branch was held on Thursday, September 25, 1941, at the Oak Hill Country Club, Rochester.

The meeting was called to order at 9:45 A.M., and the following program was carried out:

Four motion sound pictures were shown: "More Trifles of Importance," "XXX Medico," "The Hidden Master," and "A Way in the Wilderness." Under the direction of Dr. George Hoyt Whipple, dean and professor of pathology, University of Rochester School of Medicine, a group discussion was held on "Plasma Proteins and Clinical Problems." A paper was read by Dr. Walter E. Dandy, Johns Hopkins University School of Medicine, Baltimore, on "The Diagnosis and Treatment of Lesions of the Cranial Nerves," with discussion by Drs. William P. Van Wagenen and Henry W. Williams, both of Rochester. At luncheon Dr. Samuel J. Kopetzky, president of the Medical Society of the State of New York, was introduced and spoke on "Medical Preparedness."

The entire afternoon session was devoted to a forum on medicine and surgery: "Health and Disease in Infancy and Childhood," conductor, Dr. Albert D. Kaiser; "Modern Drug Therapy," conductor, Dr. James H. Sterner; "The Gastrointestinal Tract from Medical and Surgical Points of View," conductor, Dr. W. J. Merle Scott; "The Puerperal Period and Its Complications," conductor, Dr. James K. Quigley.

The following officers were elected at the business meeting: president, Dr. Benjamin J. Slater, Rochester; 1st vice-president, Dr. Homer J. Knickerbocker, Geneva; 2nd vice-president, Dr. Howard S. Brasted, Hornell; secretary, Dr. L. F. Allen, Pittsford; treasurer, Dr. Kenneth T. Rowe, Dansville.

The attendance at the meeting was excellent, there being more than three hundred doctors present from the District.

I wish to express my gratitude for the splendid cooperation I received from the local committee of the Branch in Rochester, who so ably assisted me and the officers in the preparation of the program and in carrying out the necessary arrangements for the meeting.

Respectfully submitted,

FREDERICK W. LESTER, M.D., President
February 10, 1942

Report of the Eighth District Branch

To the House of Delegates; Gentlemen:

The thirty-sixth annual meeting of the Eighth District Branch of the Medical Society of the State of New York was held at Jamestown, October 2, 1941. The program presented was most interesting and was very well attended.

Motion pictures entitled "Appendicitis," by Dr. Joseph Brenemann, Chicago, emeritus professor of pediatrics at Rush Medical School, and "Pneumonia," by Dr. Isaac Arthur Abt, Chicago, professor of pediatrics at Northwestern Medical School, opened the program at 9:30 A.M.

Following these, the first of the scientific papers was given by Dr. Herman E. Pearse,

assistant professor of surgery, University of Rochester School of Medicine, on "Injection Treatment of Varicose Veins." Dr. Pearse described first the methods used by Celsus in the first century and then the various methods in use today, along with the indications and contraindications. He also described the necessary tests to be carried out before such therapy is instituted. The various solutions used in this work were described, and their relative efficiency was discussed; also the treatment of varicose ulcers was briefly outlined.

Following this paper, Dr. J. Harold Couch, F.R.C.S., Department of Surgery, University of Toronto, discussed the practical subject, "Amputations Through the Hand." He emphasized the importance of a good functional result, especially in industrial compensation cases where the worker must earn his livelihood despite his physical handicap. Dr. Couch accompanied his talk with colored movies to illustrate graphically his subject, patients from all walks of life being presented.

Therapeutics, especially if devoted to the ever widening field of chemotherapy, play an essential part in the practice of modern-day medicine and surgery. Dr. W. Barry Wood, Jr., associate in the Department of Medicine, and associate physician to the Johns Hopkins Hospital, gave an interesting paper on "The Clinical Use of the Sulfonamide Group of Drugs." Dr. Wood spoke briefly of the problems encountered in the vast amount of research work done with the "sulfa" group of drugs from the time they were first used eight years ago in Germany until the present. He presented the various drugs: sulfanilamide, sulfapyridine, sulfathiazole, sulfaguanidine, and the newest one in common use—sulfadiazine; he also discussed the various diseases and conditions for which each drug might be most effectively used.

Following his paper, luncheon was served the members of the society and their wives. At this time Dr. Samuel J. Kopetzky, president of the State Society, outlined the role that medicine is being called upon to play in the civilian defense program of this country. He also asked for the cooperation of the medical profession in carrying through the rehabilitation program for those draftees rejected for army service because of physical defects which might easily be corrected.

At the conclusion of the luncheon, the business meeting was held, and the following officers were elected for the ensuing two years: president, Dr. Robert C. Peale, Olean; first vice-president, Dr. Peter J. Di Natale, Batavia; second vice-president, Dr. John C. Kinzly, North Tonawanda; secretary, Dr. Hall G. VanVlack, Jamestown; treasurer, Dr. William J. Orr, Buffalo.

The afternoon program began with a "Critical Review of Procedures of Active and Passive Immunization" by Dr. John A. Toomey, Cleveland, Ohio, chairman, National Committee of Immunization Procedures, professor of pediatrics, Western Reserve Medical School. The speaker considered practically all the contagious diseases individually and outlined the most efficient methods of immunization against each. He also commented on the value, as well as the dearth of value, of many of the immunization procedures and products in common use. As

to Therapy." This was a very interesting paper and was accompanied by movies. Lieutenant Colonel George A. Koenig spoke on "War Wounds of the Extremities with and without Involvement of the Bony Structures." This brought out the recent advances in traumatic surgery. The third paper was by Dr. John M. Converse on the "Problem of Burns in Warfare." Dr. Converse had just returned from England and presented a résumé, accompanied by pictures, of the latest advances in the treatment of burns.

At the conclusion of the morning program most of the members and their ladies took a boat trip up Lake Placid to Moose Island where a picnic lunch was served. Both the boat ride and the picnic were enjoyed by those present.

Registration for this meeting was seventy-two, of which fifty-six were from the District. This was less than 9 per cent of the District membership. Fifty per cent of the members of the Essex County Society were present, but there were very few present from some of the more distant counties, an exception being Schenectady County which had ten representatives, or an average of 7 per cent.

Respectfully submitted,

WARRINER WOODRUFF, M.D., *Acting President*
March 9, 1942

Report of the Fifth District Branch

To the House of Delegates; Gentlemen:

The thirty-fourth annual meeting of the Fifth District Branch was held Tuesday, September 23, 1941, in the Hotel Syracuse at Syracuse, there being about one hundred members of the District present.

The program, which was well diversified, was opened at 9:30 A.M. by a motion picture made by Drs. H. Dan Vickers and Joseph W. Conrad, Little Falls, showing the technic of the "Use of Wire Sutures in Surgery." This picture showed some of the work done in the Little Falls Hospital in the past three years.

A well-prepared paper on kidney infection was read by Dr. Leo E. Gibson, Syracuse. It was entitled "Blood Stream Infection of the Cortex of the Kidney" and was illustrated by slides.

Dr. Walter S. McClellan, medical director of the Saratoga Spa, presented a paper entitled "Facilities, Personnel, and Waters as Presented for Treatment at the Saratoga Spa."

Dr. William H. Wehr, surgeon, State Institute for the Study of Malignant Disease, presented an up-to-date résumé of the various types of cancer, with some newer ideas as to therapy.

At the luncheon attended by the physicians and their wives, many officers and guests were presented. The ladies of the Onondaga County Medical Auxillary presented a well-acted comedy on the life of a public clinic physician. This was well received by all. Dr. Kopetzky, State Society president, gave a thoughtful talk in the trends of medicine and also presented much on what was to be expected from the profession by the military of the country.

The afternoon session was opened with an illustrated paper on "Blood Studies in Shock as a Guide to Therapy" by Dr. John Scudder, New York City. This was a well-presented scientific paper and evoked much discussion.

Dr. Howard K. Thompson, Boston, presented a paper on "Chronic Arthritis from the Standpoint of the Practicing Physician," giving a review of the newer and older forms of therapy in arthritis.

Dr. Charles Bove, New York City, gave an interesting paper on "The Modern Care of Civilian and Military Casualties Under Warfare." Dr. Bove was in France during the siege of Paris; he talked of his experience in caring for war casualties and told of the types of injuries and burns encountered.

At the business session the following officers were elected: president, Dr. Edward C. Reifenstein, Syracuse; first vice-president, Dr. William Hale, Utica; second vice-president, Dr. Sherman M. Burns, Oswego; secretary, Dr. H. Dan Vickers, Little Falls; treasurer, Dr. Edgar O. Boggs, Lowville.

Respectfully submitted,

FRED C. SABIN, M.D., *President*

March 1, 1942

Report of the Sixth District Branch

To the House of Delegates; Gentlemen:

The thirty-fifth annual meeting of the Sixth District Branch of the Medical Society of the State of New York was held at the Mary Imogene Bassett Hospital, Cooperstown, on Thursday, September 18, 1941. Eighty-seven registered for the meeting.

In addition to the papers on the scientific program, the luncheon meeting at the Cooper Inn was addressed by Col. Samuel J. Kopetzky, president of the Medical Society of the State of New York, who spoke on "Medical Problems in the Defense Program." The program was as follows:

Morning Session.—"The Medical Examiner and the Coroner—Is New Legislation Needed?" Dr. Gilbert Dalldorf, director of the Division of Laboratories, Grasslands Hospital, Valhalla; "Diagnosis and Rationale in Treatment of Carcinoma of the Breast," Dr. Hugh Auchincloss, professor of clinical surgery, College of Physicians and Surgeons, Columbia University; "Involuntary Melancholia," Dr. Edward A. Strecker, professor of psychiatry, University of Pennsylvania School of Medicine.

Afternoon Session.—"Management of the Patient with Cardiac Pain," Dr. Robert L. Levy, professor of clinical medicine, College of Physicians and Surgeons, Columbia University; "The Physiology of High Altitude Flying" (motion pictures), Dr. Walter M. Boothby, professor of experimental metabolism, The Mayo Foundation, and director of the Laboratory for Research in Aviation Medicine; "Clinical Applications of Recent Advances in Nutrition," Dr. Norman H. Jolliffe, associate professor of medicine, New York University College of Medicine.

Among the scientific exhibits was one from Cornell University showing the results of researches in nutrition and in the properties of radioactive phosphorus; another dealt with tumors of the brain and prognosis in tuberculosis.

Respectfully submitted,

G. M. MACKENZIE, M.D., *President*

February 6, 1942

1942 Annual Meeting

Medical Society of the State of New York

April 27, 28, 29, 30—The Waldorf-Astoria, New York City

House of Delegates

The regular Annual Meeting of the House of Delegates of the Medical Society of the State of New York will be called to order at 10:00 A.M. on Monday, April 27, in the Ballroom of the Waldorf-Astoria.

In accordance with Chapter II, Section 3, of the Bylaws, the House will assemble according to the following schedule:

MONDAY, APRIL 27, 1942

10:00 A.M. and 3:00 P.M.

TUESDAY, APRIL 28, 1942

9:00 A.M. and 1:00 P.M.

At the last adjourned session (1:00 P.M., Tuesday), the election of officers, counselors, trustees, and delegates will occur in accordance with Chapter III, Section I of the revised By-laws.

LOUIS H. BAUER, M.D., *Speaker*
PETER IRVING, M.D., *Secretary*

Annual Meeting

The Annual Meeting of the Medical Society of the State of New York will be held on Tuesday, April 28, at 7:00 P.M., in the Ballroom.

SAMUEL J. KOPETZKY, M.D., *President*
PETER IRVING, M.D., *Secretary*

Registration

Registration will be held in the hotel—for delegates on Monday, April 27, after 9:00 A.M.; for members on Monday, Tuesday, Wednesday, and Thursday, April 27, 28, 29, 30, from 9:00 A.M. to 6:00 P.M.

Exhibits

Scientific and Technical exhibits will be located in the hotel.

Scientific Motion Pictures will be shown.

Scientific Sessions

General Sessions on Tuesday and Thursday afternoons. Section and Session meetings will be held on Tuesday morning, Wednesday morning and afternoon, and Thursday morning.

136th Annual Meeting

The Waldorf-Astoria, Ballroom, Tuesday, April 27, 7:00 P.M.

Calling the Society to order by the President, Samuel J. Kopetzky, M.D.

Reading of the minutes of the 135th Annual Meeting by the Secretary, Peter Irving, M.D.

The Annual Banquet

The Annual Banquet will be held in the Ballroom on Tuesday, April 28, at 7:00 P.M., guest speakers to be announced.

Requests for tickets and reservations should be sent to Alfred M. Hellman, M.D., *chairman*, Banquet Committee, % Medical Society of the State of New York, 292 Madison Avenue, New York City, or telephone Murray Hill 3-9841. Tickets: \$5.00.

The Woman's Auxiliary

See page 722 for the program.

an example of the latter, Dr. Toomey stated that at the present time there are no vaccines effective against poliomyelitis.

The last paper, "Pathology of Uterine Cervix as Encountered in General Practice," was presented by Dr. James E. King, gynecologist-in-chief, Buffalo General Hospital, professor of gynecology, University of Buffalo School of Medicine. Dr. King outlined many of the conditions commonly present in the pelvis that may

be successfully treated by the general practitioner.

The entire meeting was well attended, there being almost three hundred present, including the physicians' wives, for the scientific program and the luncheon. The ladies were conducted on an interesting trip through the Furniture Exposition Building after the luncheon.

Respectfully submitted,

JOHN C. KINZLY, M.D., *Secretary*

October 10, 1941

SECTIONS

All papers read before the Society by members become the property of the Society. The original copy of each paper shall be left with the secretary of the section.

Discussers should have their remarks typed, double-spaced, and hand them to the secretary.

Time limits: Twenty minutes for each paper, five minutes for individual discussion.

Section meetings will begin promptly at the hour specified.

SECTION ON
ANESTHESIOLOGY

Chairman...Harold C. Kelley, M.D., New York
Vice-Chairman.....
.....Clifford E. McElwain, M.D., Syracuse
Secretary...Milton C. Peterson, M.D. New York

Tuesday, April 28—10:00 A.M.

The Waldorf-Astoria, 4-U Blue Room

1. "Some Pertinent Observations on Anesthesia in Relation to Neurosurgery"
Bert B. Hershenson, M.D., Brooklyn
Discussion: Leo M. Davidoff, M.D., Brooklyn
2. "The Absorption of Carbon Dioxide in Anesthesia Apparatus"
Douglass H. Batten, M.D., Brooklyn
Discussion: Melville G. Kilborn, M.D., West Orange, New Jersey (By invitation)
3. "Respiratory Derangements During Anesthesia"
Charles L. Burstein, M.D., New York
Discussion: McKinnie L. Phelps, M.D., New York
4. "Movements of Body Water in Relation to Anesthesia"
Henry G. Barbour, M.D., New Haven, Connecticut (By invitation)
Discussion: Magnus I. Gregersen, Ph.D., New York (By invitation)

Wednesday, April 29—2:00 P.M.

The Waldorf-Astoria, 4-U Blue Room

1. "The Accumulation and Dissemination of Knowledge in Anesthesiology"
E. A. Rovenstine, M.D., New York

ROUND-TABLE DISCUSSION
ANESTHESIOLOGY

- "A. Inhalation Anesthesia; B. Regional and Spinal Anesthesia; C. Intravenous Anesthesia; D. Resuscitation"
- Frederick A. D. Alexander, M.D., Albany
E. Joseph Delmonico, M.D., Syracuse
Milton C. Peterson, M.D., New York
E. A. Rovenstine, M.D., New York
Paul M. Wood, M.D., New York

SECTION ON
DERMATOLOGY AND SYPHILOLOGY

Chairman.....
.....George Clinton Andrews, M.D., New York
Secretary.....
.....Richard LeRoy Saunders, M.D., Buffalo

Industrial Dermatoses

Attention of members of the section is called to the meeting Wednesday morning, April 29, in the Lounge Restaurant of the Section on Industrial Medicine and Surgery, where there will be presented papers on INDUSTRIAL DERMATOSES.

Tuesday, April 28—10:00 A.M.

The Waldorf-Astoria, Lounge Restaurant

1. "Sulfonated Hydrogenated Castor Oil as a Detergent and Ointment Base"
Shepard Quinby, M.D., Buffalo
George W. Fiero, Ph.D., Buffalo (By invitation)
2. "Newer Considerations on Soap as a Dermatologic Problem"
Herman Sharlit, M.D., New York
Discussion of both papers: Eugene F. Traub, M.D., New York
3. "The External Use of 30%-50% Sulfur in Petrolatum in Various Dermatoses"
E. William Abramowitz, M.D., New York
Discussion: Frank C. Combes, M.D., New York
4. "Sulfonamide Therapy in Dermatology"
Maurice J. Costello, M.D., New York
Abraham M. Rubinowitz, M.D., New York (By invitation)
Simeon E. Landy, M.D., New York (By invitation)
Discussion: Earl D. Osborne, M.D., Buffalo
5. "Syphilis Prevalence in a Cancer Population"
Morton L. Levin, M.D., Albany
Louis C. Kress, M.D., Albany
Hyman Goldstein, Ph.D., Albany (By invitation)
Discussion: Isadore Rosen, M.D., New York

Scientific Program

The Committee: A. W. Martin Marino, M.D., *Chairman*, Brooklyn;
D. Dexter Davis, M.D., Brooklyn; and
Chairmen of Sections and Sessions

GENERAL SESSIONS

(*Dr. Marino presiding*)

The presentations at these Sessions will consist of one-half hour lectures without discussion. The meetings will start promptly at the hour specified. Members are requested to be in their seats at least five minutes in advance of the meeting time.

Tuesday, April 28—3:00 P.M.
The Waldorf-Astoria, Ballroom

Thursday, April 30—2:00 P.M.
The Waldorf-Astoria, Ballroom

Presiding at this session:

Colonel Charles M. Walson, Surgeon, Second Corps Area, Governor's Island
Samuel Adams Cohen, M.D., New York, representing the Metropolitan New York Chapter of the Association of Military Surgeons of the United States.

1. "Relations of Faulty Dentition to Deafness"
William P. Wherry, M.D., President, Nebraska State Medical Association, Omaha, Nebraska
2. "Transition of Civilian Doctors to Medical Officers of the Army"
Major General James C. Magee, The Surgeon General, U. S. Army, Washington, D. C.
3. "Lessons Learned from Physical Examinations of Registrants"
Colonel Leonard G. Rowntree, Chief Medical Officer of the National Selective Service Administration, Washington, D. C.
4. "The Physician's Role in Civilian Defense Program"
George Baehr, M.D., Chief Medical Officer, Office of Civilian Defense, Washington, D. C.

SYMPOSIUM

DISEASES OF THE CHEST

1. "Recent Advances in Tuberculosis of Special Importance to the General Practitioner" (The A. Walter Suiter Lectureship. This will be the fourth lecture to be delivered under this lectureship fund.)
Edgar Mayer, M.D., Assistant Professor of Clinical Medicine, Cornell University Medical College, New York
2. "The Role of the Radiologist in the Diagnosis of Lesions Involving the Respiratory Tract"
Barton R. Young, M.D., Associate Professor of Radiology, Temple University School of Medicine, Philadelphia, Pennsylvania
3. "A Common Masquerading Lung Disease"
Richard H. Overholt, M.D., Thoracic Surgeon, New England Deaconess Hospital, Boston, Massachusetts
4. "The Role of the Bronchoscopist in the Diagnosis and Treatment of Diseases of the Bronchial Pulmonary Tract"
Arthur Q. Penta, M.D., Director of the Department of Bronchoscopy, Schenectady City Hospital, Schenectady

Reservations For the Annual Banquet

..... are now being made. Requests should be sent to Alfred M. Hellman, M.D., chairman, Banquet Committee, Medical Society of the State of New York, 292 Madison Avenue, New York City. Or, you can telephone—Murray Hill 3-9841. Tickets are \$5.00.

The banquet will be held in the Waldorf-Astoria Hotel on Tuesday, April 28, at 7:00 P.M.—a *must* occasion for everybody.

SECTION ON MEDICINE

Chairman.....
.....Scott Lord Smith, M.D., Poughkeepsie
Vice-Chairman.....
.....J. Stanley Kenney, M.D., New York
Secretary.....
.....Frederic William Holcomb, M.D., Kingston

Wednesday, April 29—10:00 A.M.
The Waldorf-Astoria, Ballroom

JOINT MEETING WITH THE SECTION ON SURGERY

Thursday, April 30—10:00 A.M.
The Waldorf-Astoria, Sert Room

1. "The Differential Diagnosis of Hyperparathyroidism with Particular Reference to Albright's Syndrome"
L. Whittington Gorham, M.D., Albany
2. "Gold Treatment of Rheumatoid Arthritis"
Ralph H. Boots, M.D., New York
Discussion: L. Maxwell Lockie, M.D., Buffalo
3. "Treatment of Diseases of Muscle"
Ade T. Milhorat, M.D., New York

SECTION ON NEUROLOGY AND PSYCHIATRY

Chairman...John E. Scarff, M.D., New York
(Resigned on entering military service)
Secretary...Noble R. Chambers, M.D., Syracuse

Tuesday, April 28—10:00 A.M.

The Waldorf-Astoria, Assembly Rooms J, K, L,
M

1. "The Psychiatrist and the Behavior Problem"
Albert B. Siewers, M.D., Syracuse
Discussion: Thomas W. Brockbank, M.D., New York
2. "Experiments with 'Glue-Suture' in Repair of Nerve Injury: Description of Technic and Results"
Nilson de Rezende, M.D., Rio de Janeiro, Brazil (By invitation)
Discussion: Byron Stookey, M.D., New York
3. "Experiences in Induction, Medical Advisory Board and Draft Board Psychiatry, With an Attempt to Evaluate the Presenting Problems"
Noble R. Chambers, M.D., Syracuse
Discussion: H. Beckett Lang, M.D., New York
4. "Nerve Root Compression by Herniation of the Nucleus Pulposus"
Byron Stookey, M.D., New York
Discussion: Angus Frantz, M.D., New York

Wednesday, April 29—2:00 P.M.

The Waldorf-Astoria, Assembly Rooms J, K, L,
M

1. Osteogenic Sarcoma of the Spine Secondary to Paget's Disease: Report of Three Cases Showing Compression of the Spinal Cord or of the Cauda Equina"
Eldridge Campbell, M.D., Albany
Robert D. Whitfield, M.D., Albany
Discussion: Jefferson Browder, M.D., Brooklyn
2. "A Report on the Results of Electric Shock Treatment on Mental and Emotional Symptoms"
Foster Kennedy, M.D., New York
Benjamin Wiesel, M.D., New York
Discussion: S. Eugene Barrera, M.D., New York
3. "Intracerebral Hemorrhage of Traumatic Origin: Its Surgical Treatment"
Jefferson Browder, M.D., Brooklyn
M. Frank Turney, M.D., Brooklyn
Discussion: Bronson S. Ray, M.D., New York
4. "Activity as a Therapeutic Measure in the Parkinsonian Syndromes"
Abraham M. Rabiner, M.D., Brooklyn
Morton H. Hand, M.D., Brooklyn
Discussion: Tracy J. Putnam, M.D., New York

SECTION ON OBSTETRICS AND GYNECOLOGY

Chairman.....Eliot Bishop, M.D., Brooklyn
Secretary.....Louis A. Siegel, M.D., Buffalo

Wednesday, April 29—10:00 A.M.

The Waldorf-Astoria, Starlight Roof

1. "Pregnanliol Excretion in Normal Women"
George P. Heckel, M.D., Rochester
Discussion: Herbert F. Traut, M.D., New York
2. "The Conservative Management of Obstetrical Patients Presenting Premature Rupture of the Fetal Membranes"
Bernard Joseph Pisani, M.D., New York
Discussion: William E. Studdiford, M.D., New York
3. "Premarital Medical Consultation"
Marie Pichel Warner, M.D., New York
Discussion: William H. Cary, M.D., New York; and Abraham A. Brill, M.D., New York

Thursday, April 30—10:00 A.M.

The Waldorf-Astoria, Starlight Roof

1. "The Management of the Cervix in the Treatment of Fibromyoma of the Uterus"
James A. Corscaden, M.D., New York
Discussion: Thomas C. Peightal, M.D., New York

Wednesday, April 29—2:00 P.M.

The Waldorf-Astoria, Lounge Restaurant

1. "The Surgical Treatment of Malignant Melanomata of the Skin"
Jerome P. Webster, M.D., New York
Thomas W. Stevenson, M.D., New York
Arthur Purdy Stout, M.D., New York

SYMPOSIUM

LUPUS ERYTHEMATOSUS

Directed by Paul Gross, M.D., New York

1. "The Systemic Pathology of Acute Disseminated Lupus Erythematosus"
Paul Klemperer, M.D., New York
2. "The Medical Aspects of Lupus Erythematosus"
Edward C. Reifstein, M.D., Syracuse
3. Panel Discussion on Diagnosis, Pathogenesis and Therapy of Lupus Erythematosus
Paul E. Bechet, M.D., New York
Paul Klemperer, M.D., New York
Edward C. Reifstein, M.D., Syracuse
Lewis B. Robinson, M.D., New York

SECTION ON

GASTROENTEROLOGY AND PROCTOLOGY

Chairman.....A. W. Martin Marino, M.D., Brooklyn
Vice-Chairman.....H. Walden Retan, M.D., Syracuse
Secretary.....F. Leslie Sullivan, M.D., Scotia

Wednesday, April 29—10:00 A.M.

The Waldorf-Astoria, Jansen Suite

SYMPOSIUM

THE DIARRHEAS

1. "The Epidemiology of Diarrheas in New York City"
Samuel Frant, M.D., New York
Discussion: Thomas T. Mackie, M.D., New York
2. "Diarrhea from the Point of View of a Gastroenterologist"
Stockton Kimball, M.D., Buffalo
Discussion: John L. Kantor, M.D., New York
3. "Significance and Interpretation of the Diarrheas Encountered in Proctologic Practice"
Martin S. Kleckner, M.D., Allentown, Pennsylvania (By invitation)
Discussion: Harry C. Guess, M.D., Buffalo
4. "The Roentgen Ray: An Aid in the Study of Diarrhea"
James M. Flynn, M.D., Rochester
Discussion: John Pepe, M.D., Brooklyn

Thursday, April 30—10:00 A.M.

The Waldorf-Astoria, Jansen Suite

1. "Chemotherapy in the Digestive System"
J. Arnold Bargen, M.D., Rochester, Minnesota (By invitation)
Discussion: Harry E. Reynolds, M.D., Schenectady
2. "A Study of the Sedimentation Rate in Diseases of the Gastrointestinal Tract"
William F. Lipp, M.D., Buffalo
Abraham H. Aaron, M.D., Buffalo
Discussion: Anthony Bassler, M.D., New York
3. "Pruritus Ani with Special Reference to Therapeutic Tattooing with Mercuric Sulfide"
Robert Turell, M.D., Brooklyn
Discussion: John C. M. Brust, M.D., Syracuse
4. "The Sigmoidoscopic Diagnosis of Systemic Disease"
Joseph Felsen, M.D., New York
Discussion: Albert F. R. Andresen, M.D., Brooklyn

SECTION ON

INDUSTRIAL MEDICINE AND SURGERY

Chairman....John L. Norris, M.D., Rochester
Secretary..Leonard Greenburg, M.D., New York

Wednesday, April 29—10:00 A.M.

The Waldorf-Astoria, Lounge Restaurant

1. "Protective Methods for the Prevention of Industrial Dermatoses"
Louis Schwartz, M.D., Bethesda, Maryland (By invitation)
2. "Primary Irritants"
Earl D. Osborne, M.D., Buffalo
3. "Sensitization"
Rudolf L. Baer, M.D., New York

Thursday, April 30—10:00 A.M.

The Waldorf-Astoria, Lounge Restaurant

SYMPOSIUM

THE HAND

1. "Tendon and Nerve Injuries"
Sumner L. Koch, M.D., Chicago, Illinois (By invitation)
2. "Infections"
Hugh Auchincloss, M.D., New York
3. "Fractures of the Hand—Metacarpal Bones and Phalanges"
Roswell K. Brown, M.D., Buffalo

SECTION ON PATHOLOGY AND CLINICAL PATHOLOGY

Chairman... Herbert R. Brown, M.D., Rochester
 Vice-Chairman..... Siegbert Bornstein, M.D., Brooklyn
 Ralph G. Stillman, M.D., New York
 Secretary..... M. J. Fein, M.D., Brooklyn

Wednesday, April 29—10:00 A.M.

The Waldorf-Astoria, Le Perroquet Suite

1. "Epidemiological Aspects and Laboratory Diagnosis of Salmonella Infections"
 Siegbert Bornstein, M.D., Brooklyn
 Discussion: Alfred Angrist, M.D., Jamaica
2. "Congenital Anomalies of the Smallest Bile Ducts"
 Sylvan E. Moolten, M.D., New York
 Discussion: Warner S. Hammond, Ph.D., New York (By invitation)
3. "The Functional Study of the Liver and Its Clinical Evaluation"
 Maurice Bruger, M.D., New York
 Carl H. Greene, M.D., New York
 Discussion: Reuben Ottenberg, M.D., New York
4. Demonstration of Fresh Pathologic Material
 Walter W. Brandes, M.D., New York
 Arthur M. Ginzler, M.D., New York
 Irving Graef, M.D., New York
 Milton Helpern, M.D., New York
 James R. Lisa, M.D., New York
 Louise H. Meeker, M.D., New York

Thursday, April 30—10:00 A.M.

The Waldorf-Astoria, Le Perroquet Suite

1. "The Classification and Diagnosis of Lymphoid and Allied Tumors"
 N. Chandler Foot, M.D., New York
 Discussion: Arthur Purdy Stout, M.D., New York
2. "Limitations of Syphilis Serology as Indicated by the Results of the Washington Serology Conference"
 John F. Mahoney, M.D., Staten Island (By invitation)
 Discussion: Augustus B. Wadsworth, M.D., Albany
3. "The Demonstration of Malignant Cells in Vaginal Smears and Its Relation to the Diagnosis of Carcinoma of the Uterus"
 George Papanicolaou, M.D., New York (By invitation)
 Herbert F. Traut, M.D., New York
4. Demonstration of Fresh Pathologic Material
 Charles T. Olcott, M.D., New York
 Abou D. Pollack, M.D., New York
 Antonio Rottino, M.D., New York
 Sydney Weintraub, M.D., New York
 Jacob Werne, M.D., Jamaica

SECTION ON PEDIATRICS

Chairman... Leslie O. Ashton, M.D., New York
 Vice-Chairman... William J. Orr, M.D., Buffalo
 Secretary..... A. Clement Silverman, M.D., Syracuse

Wednesday, April 29—10:00 A.M.

The Waldorf-Astoria, Assembly Rooms J, K, L, M

1. "The Regulation of Premat"
 Richard L. Day, M.D., New York
 Discussion: George R. Murphy, M.D., Elmira
2. "Finger Sucking"
 J. H. Sillman, D.D.S., New York (By invitation)
 Discussion: George S. Callaway, D.D.S., New York (By invitation)
3. "The Pathogenesis of Erythroblastosis Fetalis"
 Philip Levine, M.D., Newark, New Jersey (By invitation)
 Discussion: Carl H. Smith, M.D., New York

Thursday, April 30—10:00 A.M.

The Waldorf-Astoria, Assembly Rooms J, K, L, M

PANEL DISCUSSION SCHOOL HEALTH SERVICES

1. "Are 'School Health Services' Sound from the Point of View of Private Practitioners and School Physicians?"
 Harold H. Mitchell, M.D., Long Island City
 George M. Wheatley, M.D., New York
 Everett Colgate Jessup, M.D., Roslyn
 Discussion: John F. Fairbairn, M.D., Buffalo; William E. Ayling, M.D., Syracuse; Milton I. Levine, M.D., New York

SECTION ON PUBLIC HEALTH, HYGIENE, AND SANITATION

Chairman.....
Edward E. Gillick, M.D., Niagara Falls
 Vice-Chairman.....
Burdge P. MacLean, M.D., Huntington
 Secretary... Frank E. Coughlin, M.D., Albany

Tuesday, April 28—10:00 A.M.

The Waldorf-Astoria, Starlight Roof, 50th Street Terrace

SYMPOSIUM TUBERCULOSIS CONTROL

1. "The Role that Industry Can Play in the Elimination of Tuberculosis"
 William A. Sawyer, M.D., Rochester
 Discussion: Ezra Bridge, M.D., Rochester; and B. L. Vosburgh, M.D., Schenectady

2. "Hyperemesis Gravidarum"
Edward C. Hughes, M.D., Syracuse
Discussion: Henricus J. Stander, M.D., New York
3. "Surgery of the Ovary"
Norman F. Miller, M.D., Ann Arbor, Michigan (By invitation)
Discussion: Nathan P. Sears, M.D., Syracuse

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

Chairman....C. Stewart Nash, M.D., Rochester
Secretary.....H. W. Cowper, M.D., Buffalo

Tuesday, April 28—9:00 A.M.
The Waldorf-Astoria, Jansen Suite

1. "A New Approach to Cross-Cylinder Tests"
Joseph I. Pascal, M.D., New York
2. "Tangent Screen Scotometry in Office Practice"
Walter F. Duggan, M.D., Utica
Discussion: John N. Evans, M.D., Brooklyn
3. "Common Motor Anomalies and Their Treatment"
Virgil Casten, M.D., Boston, Massachusetts (By invitation)
Discussion: John H. Dunnington, M.D., New York
4. "A Treatment for Herpes Zoster Ophthalmicus"
Walter I. Lillie, M.D., Philadelphia, Pennsylvania (By invitation)
Discussion: Ralph I. Lloyd, M.D., Brooklyn
5. "Sulfonamides in Ophthalmology"
Phillips Thygeson, M.D., New York
William Stone, Jr., M.D., New York (By invitation)
Discussion: L. Maxwell Lockie, M.D., Buffalo

Wednesday, April 29—2:00 P.M.
The Waldorf-Astoria, Jansen Suite

1. "Stuttering: A Psychosomatic Disorder"
James S. Greene, M.D., New York
Discussion: James E. McAskill, M.D., Watertown; and Austin G. Morris, M.D., Rochester
2. "Aural, Oral and Laryngeal Tuberculosis"
George E. Wilson, M.D., Saranac Lake
Discussion: John F. Fairbairn, M.D., Buffalo; and Mervin C. Myerson, M.D., New York
3. "Otosurgical Deficiencies"
Francis L. Lederer, M.D., Chicago, Illinois (By invitation)
Discussion: August L. Beck, M.D., New Rochelle; and Ralph Almour, M.D., New York

4. "Lip Reading and the Hard-of-Hearing Child"
Augustus J. Hambrook, M.D., Troy
Discussion: Edmund Prince Fowler, M.D., New York; and Lawrence J. Nacey, M.D., Rochester

SECTION ON ORTHOPAEDIC SURGERY

Chairman. Donald E. McKenna, M.D., Brooklyn
Secretary.....Edward T. Wentworth, M.D., Rochester

Tuesday, April 28—10:00 A.M.

The Waldorf-Astoria, LePerroquet Suite

1. "The Role of Orthopaedic Appliances in the Treatment of Infantile Paralysis"
Henry H. Jordan, M.D., New York
Discussion: Leo Mayer, M.D., New York; Walker E. Smith, M.D., New York
2. "Surgical Treatment for Dysfunction Temporomandibular Joint"
Robert T. Percival, M.D., Brooklyn
Discussion: John W. Ghormley, M.D., Albany; Otho C. Hudson, M.D., Hempstead
3. "Demonstration of Splint for Fractured Clavicle"
Nathan H. Rachlin, M.D., Brooklyn
4. "Osteoid Osteoma"
Samuel Kleinberg, M.D., New York
Discussion: Maurice M. Pomeranz, M.D., New York; Frank N. Potts, M.D., Buffalo
5. "Epicondylitis Humeri"
Kristian G. Hansson, M.D., New York
Discussion: Henry B. Crawford, M.D., Rochester; Richmond Stephens, M.D., New York

Wednesday, April 29—2:00 P.M.

The Waldorf-Astoria, Le Perroquet Suite

1. "Reconstruction of the Hand Following Severe Injury"
S. Potter Bartley, M.D., Brooklyn
Discussion: Charles M. Allaben, M.D., Binghamton; John C. Detro, M.D., Rochester
2. "Mechanics of the Knee Joint"
Allen F. Voshell, M.D., Baltimore, Maryland (By invitation)
Discussion: R. Plato Schwartz, M.D., Rochester; L. Gaston Papae, M.D., Brooklyn
3. "Fractures of the Tibial Plateau"
William H. von Lackum, M.D., New York
Discussion: Roscoe D. Severance, M.D., Syracuse; William T. Shields, Jr., M.D., Troy
4. "Conservative Management of Acute Osteomyelitis"
Joseph B. L'Episcopo, M.D., Brooklyn
Edward Haggerty, M.D., Brooklyn (By invitation)
Discussion: Mather Cleveland, M.D., New York; Frank S. Child, M.D., Port Jefferson

2. "The Treatment of the Severely Burned Patient"
Earle B. Mahoney, M.D., Rochester
Discussion: Walter A. Coakley, M.D., Brooklyn

3. "Refrigeration Anesthesia"
Lyman W. Crossman, M.D., New York
Discussion: Frederick M. Allen, M.D., New York

SECTION ON UROLOGY

Chairman . . . Roy B. Henline, M.D., New York
Vice-Chairman . . .
J. Sydney Ritter, M.D., New York
Secretary . . .
A. Laurence Parlow, M.D., Rochester

Wednesday, April 29—10:00 A.M.

The Waldorf-Astoria, Carpenter Salon

1. "Urachal Calculus—With Consideration of Associated Pathology of the Urachus in Adult Life"
Clarence G. Bandler, M.D., New York
Arthur H. Milbert, M.D., New York
John L. Alley, M.D., Brooklyn

SYMPOSIUM

COMPENSATION INSURANCE IN UROLOGY

1. "Urology in Industry"
George E. Slotkin, M.D., Buffalo
2. "Relationship of Tuberculosis to Trauma"
James C. McClelland, M.D., Toronto, Canada (By invitation)

3. "Medicolegal Aspects of Trauma and Malignant Testis Tumors"
Judson B. Gilbert, M.D., Schenectady
4. "Scrotal Infections: Their Relationship to Trauma and Compensation"
Roy B. Henline, M.D., New York
William Yuncak, M.D., Jersey City, New Jersey (By invitation)
- Discussion of Symposium: Leo E. Gibson, M.D., Syracuse; Walter G. Hayward, M.D., Jamestown; George F. Hoch, M.D., New York; and David J. Kaliski, M.D., New York

Thursday, April 30—10:00 A.M.

The Waldorf-Astoria, Carpenter Salon

SYMPOSIUM

SURGERY OF THE PROSTATE

1. "Rhabdomyosarcoma in the Urinary Tract—Diagnosis, Treatment and Prognosis"
Robert W. Hunt, M.D., New York
2. "Transurethral Prostatectomy"
William A. Milner, M.D., Albany
3. "Late Results Following Transurethral Prostatic Resection"
Louis M. Orr, M.D., Orlando, Florida (By invitation)
Palmer R. Kundert, M.D., Orlando, Florida (By invitation)
4. "Endocrine Relationships of Prostatic Cancer"
Charles B. Huggins, M.D., Chicago, Illinois (By invitation)
- Discussion of Symposium: Albert M. Crance, M.D., Geneva; J. Sydney Ritter, M.D., New York; Oswald S. Lowsley, M.D., New York

SESSIONS

SESSION ON HISTORY OF MEDICINE

Chairman . . . Emerson Crosby Kelly, M.D., Albany
Vice-Chairman . . . George Rosen, M.D., Brooklyn
Secretary . . .
Edward F. Hartung, M.D., New York

Wednesday, April 29—4:00 P.M.

The Waldorf-Astoria, Carpenter Dining Room

1. "Alexander Anderson, M.D., 1775—1870, The First Wood Engraver in America"
Walter B. Mount, M.D., Montclair, New Jersey (By invitation)
2. "The Yellow Fever Epidemic in New York City, 1795—1805"
Louis Faugeres Bishop, Jr., M.D., New York

Intermission—Epidaurian Oasis

3. "New York City in the History of American Ophthalmology"
George Rosen, M.D., Brooklyn
4. "Body Snatching in New York City"
Claude E. Heaton, M.D., New York

SESSION ON PHYSICAL THERAPY

Chairman . . .
Madge C. L. McGuinness, M.D., New York
Secretary . . . Harold J. Harris, M.D., Westport

Wednesday, April 29—2:00 P.M.

The Waldorf-Astoria, Ballroom

Address: "Physical Medicine in War and Defense"

Madge C. L. McGuinness, M.D., New York

1. "Physical Therapy in Heart Disease"
William G. Leaman, Jr., M.D., Philadelphia, Pennsylvania (By invitation)
- Discussion: Walter S. McClelland, M.D., Saratoga Springs; Washington Merscher, M.D., Watkins Glen; and Franz M. Groedel, M.D., New York
2. "Functional Disorders of the Foot and Their Treatment"
Dudley J. Morton, M.D., New York
- Discussion: Herbert C. Fett, M.D., Brooklyn; Paul N. Judson, M.D., Philadelphia, Pennsylvania (By invitation)

2. "Prevention of Tuberculosis in Children"
William J. Orr, M.D., Buffalo
Discussion: Fairfax Hall, M.D., New Rochelle; and Robert E. Plunkett, M.D., Albany

3. "Tuberculosis in Adolescents and Young Adults"

Ralph Horton, M.D., Oneonta

Discussion: James C. Walsh, M.D., Farmingdale; and Arthur M. Johnson, M.D., Rochester

4. "Factors in Obstetrical Care; Report of a Rural Study"

Henry R. O'Brien, M.D., Hartford, Connecticut

Discussion: Elizabeth Parkhurst, M.Sc., Albany (By invitation); and Earle G. Brown, M.D., Mineola

Wednesday, April 29—2:00 P.M.

The Waldorf-Astoria, Starlight Roof, 50th Street Terrace

SYMPOSIUM

PUBLIC HEALTH AND THE WAR

1. "Public Health Activities of New York City in Relation to National Defense"
John L. Rice, M.D., New York
2. "Syphilis and Gonorrhea Control"
William A. Brumfield, Jr., M.D., Albany
3. "Medical Aspects of Civilian Defense"
Henry van Zile Hyde, M.D., New York
4. "United States Public Health Service War Activities"
Claude C. Pierce, M.D., New York (By invitation)

SECTION ON RADIOLOGY

Chairman.....
.....Chester O. Davison, M.D., Poughkeepsie
Vice-Chairman.....
.....Foster C. Rutison, M.D., Syracuse
Secretary..E. Forrest Merrill, M.D., New York

Tuesday, April 28—10:00 A.M.

The Waldorf-Astoria, Carpenter Salon

SYMPOSIUM

CHEST FILM INTERPRETATION

Radiologists throughout the state have been asked to send in films of interesting, unusual, or puzzling cases in which the diagnosis has been proved by microscopic study, operation, or autopsy. Using these films and an abstract of the case history, there will be a discussion of chest film analysis.

Discussion Leaders: Ross Golden, M.D., New York; Marcy L. Sussman, M.D., New York

Wednesday, April 29—2:00 P.M.

The Waldorf-Astoria, Carpenter Salon

JOINT MEETING

WITH THE

TUMOR CLINIC ASSOCIATION OF THE STATE OF NEW YORK

1. "Three New Tools of Science"
Douglas F. Winnek, Mount Vernon (By invitation)
2. An interesting symposium on the treatment of cancer, and on tumor clinic problems, is being arranged by the Tumor Clinic Association of New York State. (Details will be announced later.)
Presiding: Frederick S. Wetherell, M.D., Syracuse

JOINT MEETING—SECTION ON SURGERY WITH THE SECTION ON MEDICINE

Wednesday, April 29—10:00 A.M.

The Waldorf-Astoria, Ballroom

SYMPOSIUM

MEDICAL CONDITIONS IN SURGICAL PATIENTS

1. "Management of Cardiac Patients Who Require Surgery"
Herrman L. Blumgart, M.D., Boston, Massachusetts (By invitation)
2. "Medical Aspects of Diabetic Surgery"
Howard F. Root, M.D., Boston, Massachusetts (By invitation)
3. "Surgery in the Aged"
Frederic W. Bancroft, M.D., New York
4. "The Role of the Liver in Surgery"
Allen O. Whipple, M.D., New York
5. "The Prevention and Treatment of Post-operative Pulmonary Complications"
Carl Eggers, M.D., New York
6. Summation
Donald Guthrie, M.D., Sayre, Pennsylvania (By invitation)

SECTION ON SURGERY

Chairman..Alfred H. Noehren, M.D., Buffalo
Secretary.....
....William Crawford White, M.D., New York

Thursday, April 30—10:00 A.M.

The Waldorf-Astoria, Ballroom

1. "Diagnosis and Treatment of Obstructive Jaundice"
John D. Stewart, M.D., Buffalo
Discussion: William D. Andrus, M.D., New York

Scientific Exhibits

The Waldorf-Astoria, April 27, 28, 29, 30, 1942

J. G. Fred Hiss, M.D., *Chairman*, Syracuse

John DePaul Currence, M.D., New York

Augustus J. Hambrook, M.D.

C. Stewart Nash, M.D.

Ralph Almour, M.D.

Edmund P. Fowler, M.D.

John F. Fairbairn, M.D.

COMMITTEE ON DEAF AND HARD OF HEARING
MEDICAL SOCIETY OF THE STATE OF NEW YORK

Wall panels, exhibition of hearing aids and audiometers for pitch tone testing approved by the Council of Physical Therapy of the American Medical Association. Demonstration of lip reading.

J. Eastman Sheehan, M.D.

New York Polyclinic Medical School and Hospital
New York

PLASTIC REPARATIVE SURGERY

Colored casts before and after repair; stage operations in colors; transparent photographs; plastic operations in line drawings and single-tone photographs; cinema in colors; various dental appliances used in jaw surgery; photographs of war cases.

Tibor de Cholnoky, M.D.

Skin and Cancer Unit, Post-Graduate Hospital
Columbia University
New York

SURGERY IN FACIAL CANCER

Exhibit showing early and advanced cases of cancer of the face before and after operation with emphasis on plastic reconstruction. Statistical data and the results from the Skin and Cancer Unit of the New York Post-Graduate Hospital, Columbia University, New York City.

Walter A. Coakley, M.D., F.A.C.S.

Kings County Hospital
Brooklyn

PLASTIC AND MAXILLOFACIAL SURGERY EXHIBIT

Photographs of burns and skin grafts, prints of x-rays of fractures of facial bones including zygoma, mandible and maxilla; models of fracture of facial bones.

Jacques W. Maliniac, M.D.

New York

USE OF FREE GRAFTS AND FLAPS IN POSTTRAUMATIC LOSSES OF SKIN

Charts, photographs, and moulages illustrating a variety of skin injuries and losses; plans of repair in typical instances with special emphasis on prevention of disfigurement.

Fritz Spanier, M.D.

Staten Island
New York

FACIOMAXILLARY SURGERY

Moulages and photographs demonstrating

operations on maxilla, mandibula, palate and face (War injuries, cleft palate, protrusion tumors, etc.).

Joseph Kovacs, M.D.

Gerald H. Pratt, M.D.

New York Post-Graduate Hospital

ULCERS OF THE LEG

Differential Diagnosis. Conservative and surgical treatment.

Emanuel Goldberger, M.D.

Lincoln Hospital
New York

THE AV-LEADS (AUGMENTED UNIPOLAR EXTREMITY LEADS)

The exhibit illustrates the principles and technique of the Exhibitor's Augmented Unipolar Extremity Leads and demonstrates their applicability in the understanding of the eeg. patterns of axis deviation, ventricular hypertrophy, coronary thrombosis, pericarditis, pulmonary embolism, etc.

David Louis Engelsher, M.D.

New York

CONDITIONS RELATED TO ALLERGY AND ASTHMA

A schematic display revealing conditions and diseases that often precede asthma or are of an allergic basis requiring that type of study.

I. A. Brunstein, M.D.

Stuyvesant Polyclinic
New York

PREVENTION OF DISCOMFORT AND DISABILITY IN THE TREATMENT OF VARICOSE VEINS

Illustrations of "Before and After Treatment," with texts and sketches on technical procedures. Care of complications associated with the more advanced cases of varicose veins will be included.

Erich Seligmann, M.D.

Siegbert Bornstein, M.D.

I. Saphra, M.D.

Beth Israel Hospital
New York

SEROLOGIC DIAGNOSIS OF SALMONELLA INFECTIONS

Pictures and charts describing theory and technique of identification and classification of Salmonella organisms according to the Kauffmann-White Schema. Antigens and sera for practical demonstration of a simplified typing procedure.

Moses Einhorn, M.D.

Bronx Hospital
New York

I-TRIPLE CHANNEL GASTROJUNAL ILEAC TUBE

3. "War Experiences Abroad and At Home"
Philip D. Wilson, M.D., New York, Medical Director, American Hospital in Britain
"From Civilian Practice to Navy Medicine"
Lt. Com. Harold J. Harris (MC) U. S. Navy, Senior Medical Officer, Westport
"Organization and Equipment of a Physical Therapy Department for Convalescent and General Hospitals During War"
Lt. Col. Norman E. Titus (MC) U. S. Army, New York
4. "The Technic of the Kenny Treatment in Acute Poliomyelitis"
Sister Elizabeth Kenny, of Australia (By invitation)
Discussion: Mary M. I. Daly, M.D., New York (By invitation); Philip M. Stimson, M.D., New York; George J. Boines, M.D., Wilmington, Delaware (By invitation); and Walter I. Galland, M.D., New York

Scientific Motion Picture Exhibit

J. G. Fred Hiss, M.D., *Chairman*, Syracuse

John DePaul Currence, M.D., New York

The Waldorf-Astoria, Sert Room

- | | |
|--|---|
| Recent Experimental Studies in Cataract
Extraction
Jacob Goldsmith, M.D. | Peripheral Vascular Diseases
Saul S. Samuels, M.D. |
| Modified Inguinal Hernioplasty
Herbert E. Stein, M.D. | Demonstration of New Apparatus to Test
Muscle Strength in Poliomyelitis
Adolph A. Schmier, M.D. |
| Surgery in Facial Cancer
Tibor de Cholnoky, M.D. | Clinical Manifestations of Allergy
H. Harold Gelfand, M.D. |
| Tattooing with Mercury Sulfide for Intractable Pruritus Vulvae and Ani
Robert Turell, M.D. | Fixed Paralytic Pelvic Obliquity
Leo Mayer, M.D. |
| A Clinic on Acute Mastoiditis
Samuel J. Kopetzky, M.D.
Ralph Almour, M.D. | Plastic Surgery
J. Eastman Sheehan, M.D. |
| Complete Construction of Auricle Split Skin Graft for Webbed Cicatricial Contractures of the Elbow
Morton I. Berson, M.D. | Plastic Surgery
Jacques W. Maliniac, M.D. |
| Pneumonia—Diagnosis and Treatment
Norman Plummer, M.D. | Repair of Difficult Hernias and Simple
Hernioplasty
Alfred H. Iason, M.D. |
| Committee on Deaf and Hard of Hearing
Medical Society of the State of New York | Rhinoplasty and Its Relation to Rhinology
George D. Wolf, M.D. |
| Conservative and Surgical Treatment of Leg
Ulcers
Joseph Kovacs, M.D.
Gerald H. Pratt, M.D. | Syphilis
United States Public Health Service
Expanded Local Tonsillectomy
Harry Meyersburg, M.D. |

technic used in the care of facial injuries; illustrations with models, photographs, sketches, and brief printed instructions; colored pictures of standard plastic operations.

William G. Exton, M.D.

A. R. Rose, M.D.

F. Schattner, M.D.

Laboratory of the Prudential Insurance Company of America
Newark, New Jersey

ACIDOSIS AND ALKALOSIS: CLINICAL SIGNIFICANCE AND MEASUREMENT BY COLORIMETRY

Physiologic considerations and various diseases in which acidosis and alkalosis play more or less important roles are shown on wall charts and a simple clinical micro method for measuring alkali reserve by colorimetry is demonstrated.

Edwin Boros, M.D.

Bronx Hospital

New York

CARDIOSPASM

The etiologic factors are mentioned in connection with *general consideration* of this ailment as well as methods of treatment, with introduction of author's improved endoscopic dilator.

A. Benson Cannon, M.D.

Hazel Bishop, M.D.

Vanderbilt Clinic

Columbia Medical Center
New York

COLORLED LANTERN SLIDES OF SKIN LESIONS IN CHILDREN

Skin lesions will include impetigo, ringworm, syphilis, eczema, etc.

Abner I. Weisman, M.D.

Department of Gynecology

Jewish Memorial Hospital
New York

UTEROTUBAL X-RAY SERIES. A NEW TECHNIC IN STERILITY DIAGNOSIS

This exhibit consists of a demonstration of the applicability of radio-opaque substances injected directly into the cervix of the uterus in order to visualize clearly the structure of the female genital tract. The simple technic is clearly described by means of drawings, photographs, and actual demonstration of many series of x-ray plates. This fractional method of viewing the female viscera is performed by a combined technic of fluoroscopy and radiography with the use of a new hysteroscope based on Beclere's original apparatus. The advantages of this procedure are lucidly and amply enumerated.

James L. McCartney, M.D.

J. de Carvajal-Forero, B.S.S., Ph.B., Roentgenologist
New York

RADIOGRAPHY OF SOFT TISSUES BY MONOCHROMATIC X-RADIATION

Exhibit consists exclusively of radiograms. Soft tissues are demonstrated in proportion to their different densities without sacrificing bone detail.

Dudley J. Morton, M.D.

Herbert Elftwin, M.D.

College of Physicians & Surgeons
Columbia University
New York

WEIGHT DISTRIBUTION IN NORMAL AND ABNORMAL FEET

An apparatus by which the invisible weight stresses transmitted through the feet in standing or walking are translated into visible light. The degree of pressure corresponding to the brilliance of the lighted areas within the area of the foot's ground contact.

Bernard Samuels, M.D., Director

Conrad Berens, M.D.

Brittain Payne, M.D.

E. B. Burchell, M.D.

G. A. Shetter, M.D.

Eye & Ear Infirmary

New York

MACROSCOPIC AND MICROSCOPIC OCULAR PATHOLOGY

There will be gross specimens of hemisectioned globes mounted in museum fashion; microscopic slides and microphotographs demonstrating ocular pathology and differential staining.

Harold A. Goldberger, M.D.

Bellevue Hospital and New York Dispensary
New York

THE LOCAL USE OF OXIDANT-POTENTIATED SULFONAMIDES IN SURGERY

Charts outlining treatment and methods for various wounds and surgical infections. Kodachrome transparencies of lesions. Mode of action of sulfonamides. Photomicrographic studies of sulfonamide wound coagula. Dissecting microscope demonstration of antibiotic effect of potentiated sulfonamides on unicellular organisms.

Section on Pathology & Clinical Pathology

Drs. Brody, Ginzler, Graef, Halpern, Lisa, Meeker, Olcott, Pollack, Rottino, Strassman, Weintraub, and Werne

DAILY FRESH TISSUE DEMONSTRATIONS

Lester J. Unger, M.D.

New York Post-Graduate Medical School and Hospital, New York

BLOOD BANKS—PLASMA PREPARATION AND STORAGE

Ferdinand G. Kojis, M.D.

Willard Parker Hospital, New York

SERUM SICKNESS AND ANAPHYLAXIS

The incidence of serum sickness and anaphylaxis as influenced by age, race, sex, kind of serum (horse) route of administration, quantity, repeated injections, and the individual as judged by the positive intradermal and/or conjunctival tests to horse serum. Onset and duration of serum sickness. Tabulation of 24 different symptoms and 7 types of serum rashes. Results of hypsensitization. Precautions to be observed.

II—EFFECTIVE TREATMENT OF CARDIOSPASM

(1) *Incidence*, (2) *Symptoms*, (3) *Lavage*, (4) *Gastric Feeding Method*, (5) *Dilator Apparatus*, (6) *Methods of Dilatation*.

Alfred H. Iason, M.D.
Adelphi Hospital
Brooklyn

REPAIR OF DIFFICULT HERNIAS

Colored pictures and photographs and tables illustrating new technic, results, and instrument used in pedicled fascia lata transplant for difficult abdominal hernias. Tables and illustrations comparing results and other methods.

Hollis K. Russell, M.D.

Robert C. Page, M.D.

Zacharias Bercovitz, M.D.

New York Post-Graduate Medical School and Hospital

and
St. Agnes Hospital, White Plains
New York

SIMPLIFIED PROTHROMBIN CLOTTING-TIME DETERMINATIONS, MACRO AND MICRO METHODS

Charts showing technic of performing the prothrombin clotting time by both macro and micro methods, using Russell Viper Venom as the thromboplastic agent; charts showing comparison between Quick's method and Quick's modified method (using Russell Viper Venom); charts of micro method and graph showing result of its use in a series of newborn infants over first week of life; charts on dilution studies of plasma to determine changes in prothrombin clotting time; charts on effect of lecithinizing the venom and thus accelerating the prothrombin clotting time; charts showing prothrombin and clotting time in hypoprothrombinemia and response to vitamin K and bile salts.

Saul S. Samuels, M.D.
Bellevue Hospital
New York

PERIPHERAL VASCULAR DISEASES

Methods of diagnosis of peripheral arterial obstruction. Conservative treatment of gangrene in thromboangitis obliterans and arteriosclerosis with and without diabetes. Demonstration of a new oscillogram.

James V. Ricci, M.D.
M. Russell Nelson, M.D.
City Hospital
New York

PHOTOGRAPHIC HISTORY OF THE VAGINAL SPECULUM AND THE CURETTE

Photographic collection of every known speculum and curette found in the literature from 79 A.D. to 1940.

Gamliel Saland, M.D.
Charles Klein, M.D.
Herman Zurrow, M.D.
Bronx Hospital
New York

FUNDAMENTAL DIAGNOSTIC PROCEDURES IN PERIPHERAL VASCULAR DISEASES

Charts demonstrating thermal reflex vasodilatation; Sodium nitrate and oscillogram;

Nerve Block; Criteria for classification and diagnosis; X-ray demonstration of vessel visualization with thorotrast and diodrast; Kodachrome slides of clinical and pathological material.

Lothar B. Kalinowsky, M.D.

Eugene Barrera, M.D.

William A. Horwitz, M.D.

Bernard L. Pacella, M.D.

New York State Psychiatric Institute and Hospital
New York

ELECTRIC SHOCK THERAPY IN PRACTICE AND RESEARCH

Survey of various aspects in electric shock therapy: Historical background; treatment records; practical suggestions. Results in various syndromes are given (dementia praecox, affective disorders, psychoneuroses). Clinical, laboratory, electroencephalographic observations are shown.

Edward Singer, M.D.

Brooklyn Hospital
Brooklyn

A METHOD OF DISINFECTION BASED ON CAPILLARY ELECTRICAL PHENOMENA ON BORDER MEMBRANES

Description and demonstration of a new method of testing and devising disinfectants and germicides.

A. Original photomicrographs of pathogenic microorganisms taken with the aid of fluorescent microscope will be exhibited, showing that substances having germicidal properties are adsorbed to the microorganisms according to their electrical charge and irrespective of their chemical composition. Photomicrographs will also demonstrate that the adsorption of germicides is increased with the raising of the dielectric constant of the solvent.

B. Charts of the fluorescent microscope and the high-tension apparatus for the testing of the electric charge of germicidal solutions will be shown and their principles will be described.

C. The chemical compositions of the various germicidal compounds devised and their efficacy on microorganisms will be shown on charts. The effect of the germicides on tissue cells will be described.

George Miller MacKee, M.D.

Anthony C. Cipollaro, M.D.

Skin and Cancer Unit, Post-Graduate Hospital
Columbia University
New York

CUTANEOUS MANIFESTATIONS OF TUBERCULOSIS

Exhibit consists of approximately 100 colored prints, showing practically all known forms of cutaneous tuberculosis. A classification of the tuberculodermas is also included.

E. Hoyt DeKleine, M.D.

Buffalo General & Millard Fillmore Hospitals
Buffalo

Claire L. Straith, M.D.

Harper Hospital, Detroit, Michigan

PLASTIC SURGERY AND CARE OF FACIAL INJURIES

Demonstration of principles and details of

That Wartime America may learn
how good posture helps
safeguard health . . .

S. H. Camp & Company
announces

**4th ANNUAL
CAMP
NATIONAL POSTURE
WEEK
MAY 4th to 9th**

In wartime it is more important than ever to teach the American public how improved posture can help safeguard health. For this reason, National Posture Week this year should be of more than usual interest to the medical profession.

In accordance with its increased significance, National Posture Week will be more widely publicized than ever. Press, radio, schools, colleges and civic groups will join in this important educational event.

We are confident that this 4th Annual National Posture Week will not only inspire more men and women to better posture . . . but will encourage those suffering from poor body mechanics to seek professional medical counsel. In achieving these aims, we hope to win again for this event the approval and support accorded it in the past by the medical fraternity.

S. H. CAMP AND COMPANY
JACKSON, MICHIGAN

World's largest manufacturers of scientific supports
Offices in New York; Chicago;
Windsor, Ontario; London, Eng.

**FREE—A Booklet on Posture
For Your Patients**

This 16-page ethical booklet—"Blue Prints For Body Balance"—contains authentic posture information for the layman. It is prepared especially for doctors to give patients—by the Samuel Higby Camp Institute For Better Posture. Interesting and non-technical, it is easy to read and understand. You can obtain as many free copies as you wish by writing the Samuel Higby Camp Institute For Better Posture, Address: Empire State Building, New York, N. Y.



Book is 3 1/4 inches by 6 1/4 inches. Printed in blue. Profusely illustrated with skeletal diagrams.

Samuel J. Kopetzky, M.D.
Murray B. Gordon, M.D.
Ralph Almour, M.D.
New York Polyclinic Hospital
and
Beth Israel Hospital
New York

OTITIC COMPLICATIONS IN CONTAGIOUS DISEASE

By means of colored drawings depicting the ear conditions occurring in contagion, with accompanying temperature curves and colored pictures depicting cardinal symptoms of contagion.

Bruno L. Griesman, M.D.
Otto Lowenstein, M.D.
Alfred Kestenbaum, M.D.
Department of Otolaryngology
New York Polyclinic Medical School
New York

DIFFERENTIATION OF ORGANIC FROM PSYCHOGENIC LOSS OF HEARING AND

GENESIS AND APPEARANCE OF DIFFERENT KINDS OF NYSTAGMUS

Method of estimating actual capacity of hearing and differentiation of organic from psychogenic loss of hearing (based on tonus reflexes).

Harry E. Ungerleider, M.D.
Robert M. Daley, M.D.
Richard S. Gubner, M.D.

CLINICAL EVALUATION OF HEART SIZE MEASUREMENTS

An exhibit of roentgenograms illustrating factors influencing the size of the heart and methods for estimating the heart size. Criteria are presented for enlargement of the individual heart chambers. The practical value of heart size determination in various types of heart disease is summarized.

James F. Hart, M.D.
James R. Lisa, M.D.
Milton B. Rosenblatt, M.D.
City Hospital
New York

- A. THE ROLE OF INFECTION IN SUDDEN DEATH. ANATOMIC FINDINGS IN 81 CASES
- B. PATHOGENESIS OF BRONCHIECTASIS. A STUDY OF 110 CASES COMING TO AUTOPSY

Arthur S. W. Touroff, M.D.
Beth Israel Hospital
and
Mt. Sinai Hospital
New York

- A. THE SURGICAL TREATMENT OF SUBACUTE STREPTOCOCCUS VIRIDANS ENDARTERITIS SUPERIMPOSED UPON PATENT DUCTUS ARTERIOSUS

A presentation of the anatomy of patent ductus arteriosus, and the pathology of superimposed subacute streptococcus viridans infection. A discussion of the rationale of operation in the cure of such infection, and the indications and contraindications to operation. A presentation of cases operated upon by the author up to the present time.

- B. SUBACUTE STREPTOCOCCUS VIRIDANS SEPTICEMIA CURED BY EXCISION OF A TRAUMATIC FEMORAL ARTERIOVENOUS ANEURYSM

Clinical abstract of a case of traumatic femoral arteriovenous aneurysm, with the subsequent development of subacute streptococcus viridans septicemia. Charts to indicate the clinical course, operative findings, and photographs of the excised surgical specimen which revealed the presence of infected vegetations within the arteriovenous sac.

Henry H. Jordan, M.D.
Lenox Hill Hospital
New York

ORTHOPAEDIC APPLIANCES IN INFANTILE PARALYSIS

Charts, photographs, and case histories illustrating the subject matter. Samples and models of the braces in use will be on display.

Madge C. L. McGuinness, M.D.
Anna Samuelson, M.D.
Lenox Hill Hospital
New York

EVALUATING PROGNOSIS IN PERIPHERAL VASCULAR DISEASE—CHARTS

Jacob Goldsmith, M.D.
Mount Sinai Hospital
New York

RECENT EXPERIMENTAL STUDIES IN CATARACT EXTRACTION

Demonstration of the dynamic factors which play so important a part in the intracapsular cataract extraction. The intimate anatomy of the anterior segment of the eyeball is shown in gross and microscopic illustrations. Motion pictures describing the above. Another concept to explain cataract formation submitted. Model to demonstrate the complete suspensory ligament.

E. A. Rovenstine, M.D.
Charles L. Burstein, M.D.
New York University College of Medicine
New York

RESPIRATORY DERANGEMENTS DURING ANESTHESIA

Charts and tracings prepared to illustrate and define the numerous disturbances of the respirations during clinical anesthesia.

Frederick C. Wilcox, Jr., M.D.
Brooklyn Hospital

COMMONLY USED APPARATUS FOR THE ADMINISTRATION OF INTRAVENOUS ANESTHETIC AGENTS

Five different apparatus for the administration of intravenous anesthetic agents, set up completely as used in the surgical amphitheater with description of various means of usage, advantages and disadvantages, etc.

Albert A. Cinelli, M.D.
Manhattan Eye, Ear and Throat Hospital
New York

ALTERED NASAL PHYSIOLOGY

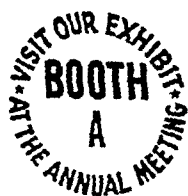
Series of cases and graphs showing anatomic deformities of the nose causing alteration in the inspiratory current of air. Anatomic adjustment with rhinoplastic principles restoring its

[Continued on page 704]

Only One
Pair of
Feet



in the World
Could make
These
Prints



PITOCIN

A product of modern research offered to the
medical profession by

No other footprints are exactly the same as those of this newborn infant. And no other oxytocic product duplicates Pitocin,* which helped bring this baby into the world. Pitocin contains the oxytocic principle of the pituitary gland with almost none of its pressor principle. Thus, it effectively stimulates uterine contractions without raising the blood pressure... an especially useful factor when labor is complicated by such conditions as nephritis and hypertension.

Pitocin is a familiar product in most delivery rooms. Obstetricians are pleased with its oxytocic reliability, its speedy action, the rarity of systemic reactions following its use. The Parke-Davis label assures accurate standardization.

Chief indications for Pitocin (alpha-hypophamine) are: medical induction of labor; stimulation of the lagging uterus during labor; prevention and minimizing of postpartum or late puerperal hemorrhage; and of blood loss following cesarean section or curettage. Literature on request.

*Trade Mark Reg. U.S. Pat. Off.

PARKE, DAVIS & COMPANY DETROIT, MICHIGAN
OVER 75 YEARS OF SERVICE TO MEDICINE AND PHARMACY
Say you saw it in the NEW YORK STATE JOURNAL OF MEDICINE

[Continued from page 702]

normal physiologic function is shown and explained.

New York State Medical Library
State Education Department
Albany

New York State Medical Library

Posters, books, and journals. A representative of the library will be present to answer all questions concerning the services of the library.

State Department of Health, Albany

MODERN TREATMENT OF GONORRHEA WITH
SULFATHIAZOLE
METHODS OF CARING FOR RADIUM DURING AIR
BOMBINGS

New York State Department of Social Welfare
Bureau of Services for the Blind

Exhibition of hearing aids and audiometers for pitch tone testing approved by the Council of Physical Therapy of the American Medical Association; demonstration of lip reading.

Council Committee

on

Public Health and Medical Education
O. W. H. Mitchell, M.D., *Chairman*

Exhibit shows activities of this committee and how it is prepared to help the various county societies with their medical education programs.

Anthony J. Lanza, M.D.

Metropolitan Life Insurance Company
New York

RHEUMATIC FEVER

The exhibit shows the importance of Rheumatic Fever in the heart-disease picture; presents some statistical studies on the mortality of persons with this disease; and suggests ways in which private physicians can help in the control of rheumatic fever.

Marie Licht, R.N., Superintendent
Bushwick Hospital
Brooklyn, New York

This exhibit shows the educational and administrative procedures which are used from the time an application is received to the time of graduation of a student nurse.

New York State Health Preparedness Commission
Lee B. Mailler, *Chairman*

Frederick W. Williams, M.D.
New York Diabetes Association
New York

Charts to show the eligibility for the camp and the social activities, together with its history and development; the results of the improved care of the children while they were at camp; the results of a study of vitamin deficiencies and therapy at the camp; the results of the clinical study of diabetes and tuberculosis carried on under the direction of the Association.

State Council of Defense
State of New York
Division of Volunteer Participation
Albany

Exhibit on the work of the Division of Volunteer Participation, showing ways in which volunteers can be of service in the health field, prepared by a group of volunteers in the Art Department of the State Teachers College in Albany.

Harold Jacobziner, M.D., Health Director
National Youth Administration for New York
City and Long Island
New York

Exhibit showing the type of health service given to NYA youth with charts showing:

1. Health status of NYA youth.
2. Statistical analysis of defects found.
3. Analysis of defects corrected.
4. Table of results of a Mantoux study by age, sex, and color on over 5,000 youths.
5. Typical dental picture of an average NYA youth.

AMERICAN COLLEGE OF SURGEONS ANNOUNCES APRIL "WAR SESSIONS"

Between April 1 and May 1, inclusive, the American College of Surgeons will hold one-day "War Sessions" on problems of military service and civilian defense for medical and hospital personnel as follows in eleven cities (on April 3 in Albany at the DeWitt Clinton Hotel).

During March similar meetings were held in fourteen other cities.

The meetings open at 9:00 A.M. with panel discussions on treatment of war injuries for the medical profession and a forum on civilian defense as related to hospitals, led by a medical officer of the United States Office of Civilian Defense, for hospital personnel. From 10:45 to noon a joint meeting for physicians, surgeons, and hospital representatives is held, with medical officers of the United States Army, the United States

Navy, and the Office of Civilian Defense, as speakers. At the joint luncheon which follows, the Procurement and Assignment Service in relation to the medical profession and to hospitals is discussed by Major Sam F. Seeley, Executive Officer, a specially appointed delegate. In the afternoon, panel discussions for the medical profession are held on treatment of wounds of soft parts and on fractures, and for hospital representatives on special problems incident to the war as affecting hospitals.

The dinner meeting and the panel discussions which follow on treatment of burns and prevention and treatment of shock are for the entire group. The representatives of the army and the navy medical corps collaborate with civilian surgeons in leading these discussions.



VITAMIN B COMPLEX DEFICIENCY

*has numerous
manifestations*

• The signs and symptoms of vitamin B complex deficiency are widespread and may involve the skin, eyes, nervous system, cardiovascular apparatus, and gastro-intestinal tract.

Betaplexin is serviceable both for treatment and for prevention of deficiency of the various factors comprising vitamin B complex. It is supplied in convenient forms.



BETAPLEXIN

Trademark Reg. U. S. Pat. Off. & Canada

Brand of VITAMIN B COMPLEX

Winthrop
CHEMICAL COMPANY, INC.

*Pharmaceuticals of merit
for the physician*

NEW YORK, N. Y.

WINDSOR, ONT.

ELIXIR
SYRUP
TABLETS
CAPSULES

Technical Exhibits

The Waldorf-Astoria, Ball Room Floor, April 27-30, 1942

THERE has never been a wider diversification of displays illustrating the services and supplies available to the medical profession than is scheduled for the annual meeting this year.

The Technical Displays are surrounded by the Scientific Exhibits. It may be suggested that the best way to view the exposition is to start at the entrance to the Basildon Room, follow through the Jade Room, Astor Gallery, East Foyer, the Ball Room Corridor, and the West Foyer.

Of special interest will be the "fresh tissue" exhibit and demonstration in the West Foyer which is under the direction of the pathology section.

Along this route you will find, in addition to the Technical Exhibits listed below, a wide variety of scientific presentations which no member attending this year's meeting will want to miss.

The Technical Exhibits are described in the following list. The brief description of them can only give a fraction of the information which is available at each of these booths. Admission to the exhibits and scientific sessions is limited to those presenting official badges which are available at the Registration Desk. There is no registration fee. Upon your arrival at the meeting go at once to the Registration Desk, obtain your badge and the exhibits will be open to you.

Abbott Laboratories, North Chicago (Booth 107), heartily invites you to drop in and discuss the newer products with their Abbott-trained representatives. Here you will find a comprehensive showing including large volume Intravenous Solutions and newly developed Venoclysis Equipment, Sulfonamides, Pentothal Sodium, Vitamins, Metaphens, etc. So! Stop in and see them!

American Hospital Supply Corporation, Chicago and New York (Booth 1). You will see interesting demonstrations of the ease, rapidity, and economy of plasma preparation with Baxter equipment, by both centrifugation and sedimentation methods. You will also have an opportunity to learn about the latest transfusion methods, and the merits of the Baxter Sulfanilamide and Alcohol-Dextrose solutions, two new products which have made an excellent therapeutic record. Also on display are new and exclusive American products and equipment, which have been the subject of so much favorable comment by the profession.

The Arlington Chemical Company, Yonkers, New York (Booth 86). The importance of amino acids in nutrition is the subject of discussion and research to a greater degree each year. Aminoids, a multiple amino acid preparation for oral administration, will be demonstrated by the Arlington Chemical Co. at their exhibit. Allergenic extracts of proteins, pollens, and fungi for diagnosis and desensitization of allergic conditions are also on display.

Arta Cosmetics, Inc., Bloomfield, New Jersey (Booth 105), will exhibit Sutra, the American Medical Association Accepted sunfilter cream.

Sutra is an easily absorbed cream—a shield against painful sunburn, blistering, and peeling. Imra, the modern odorless cosmetic depilatory which involves a new chemical principle in scientific depilation, will also be shown. At the same booth the Union Pharmaceutical Co., Inc., will display Saraka, a diet aid for use in common constipation.

W. A. Baum Co., Inc., New York (Booth 33), will feature two new items in the display of their complete line of Baumanometers and Latex replacement parts. An improved Air-Flo Control and Bulb of an entirely new design and construction and the new Kit-bag Model Baumanometer will be introduced at this meeting. You are cordially invited to visit their exhibit.

J. Beeber Company, New York (Booths 26 and 27).

The Bergman Associates, Brooklyn (Booth 102), present several features of their complete service to physicians and pharmaceutical concerns, including motion pictures, charts, and color transparencies. There will be a working demonstration of the production of animated films, color photography and medical drawing. A special display of cameras, etc., designed and built by The Bergman Associates for special purposes (including endoscopic motion pictures) is featured.

The Best Foods, Inc., New York (Booth 96). Interesting displays at their exhibit illustrate and describe the many uses of Nucoa, the wholesome vegetable margarine, composed of products only by American farmers. Nucoa and other Best Foods and Hellmann's products will be dis-



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CAPSULES

played at the booth, where Elsie Stark, Director of Home Economics Department, is in charge.

Bilhuber-Knoll Corp., Orange, New Jersey (Booth 51). Visit their exhibit where personal attention will be given to your discussions on Dilaudid, the quickly acting analgesic and cough sedative; Metrazol, the "Council Accepted" stimulant and restorative; Theocalcin, the myocardial stimulant and diuretic. Mr. Beakley, Mr. Delaney, and Mr. Stauber will be on hand and will welcome your visits and the opportunity to answer your questions pertinent to their original medicinal chemicals.

The Borden Company, New York (Booth 4). For news about Borden's scientifically designed infant foods visit their display. Biolac—a complete formula except for vitamin C. New Improved Dryco provides increased potencies of vitamins A and D, quicker solubility and maximum formula flexibility. Mull-Soy—emulsified food for infants allergic to milk, readily digestible, exceptionally palatable. Also Beta Lactose, Klim, Merrell-Soule Powdered Milks, and Borden's Silver Cow and Borden's Pearl Brand Irradiated Evaporated Milk.

Brewer & Company, Inc., Worcester, Massachusetts (Booth 81), produces a very fine line of enteric coated specialties, as follows: Thesodate (featured at their exhibit) enteric coated tablets and gelatin capsules for the treatment of Coronary Artery Disease; Luasmin enteric coated tablets and gelatin capsules for the relief of Bronchial Asthma; and enteric coated Codeine Phosphate Tablets ($\frac{1}{4}$ grain), for the relief of useless coughs.

Burroughs Welcome & Co. (U. S. A.) Inc., New York (Booth 72), presents a selected group of fine chemicals and pharmaceutical preparations, together with new and important therapeutic agents of special interest to the medical profession.

Cambridge Instrument Company, Inc., New York (Booths 73 and 74). Physicians interested in Cardiology should not fail to see the new Cambridge Research Model Portable Electrocardiograph-Stethograph which is being shown at their exhibit together with a complete display of Cambridge cardiac diagnostic instruments. Here may be seen mobile, stationary, and portable models of Cambridge Electrocardiographs and Electrocardiograph-Stethographs, available to serve large or small hospital, clinic or private office. A new portable instrument, which indicates or records blood pressure continuously, will also be on display.

Camel Cigarettes, New York (Booths 14 and 15), will exhibit large detailed photographs of equipment used in comparative tests of the five largest-selling brands of cigarettes. These tests proved that Camels burn slower and contain less nicotine in the smoke than other cigarettes. Representatives will be available to discuss this research.

Cameron Surgical Specialty Co., Chicago and New York (Booth 37). See the Cameron Flexible Gastrosopes, Bronchoscopes, Esophagoscopes, Laryngoscopes, Binocular Prism Loupe, Color Flash Clinical Camera, Mirrolite, and other new developments in electrically lighted Diagnostic and Operating Instruments for all parts of the body. As all instruments work from dry cells as well as electric light current, in the event of a "black out" or emergency failure of electric light current the surgical work can proceed regardless. Of special interest are the new Electro-Surgical Units (the genuine Radio Knives) for cutting, coagulating, desiccating, and fulgurating in all sizes from the office model Cauteradio to major Hospital Units with abundance of power for radical surgery. New York Sales Office, 250 West 57 St., New York City, convenient for service at all times for doctors in the greater New York area.

S. H. Camp & Company, Jackson, Michigan (Booth 75), will exhibit a reproduction of the Camp Transparent Woman as the central theme of their display. The company's authorized dealers are equipped to serve patients for the various supports prescribed by physicians. The complete line of merchandise for prenatal, postnatal, visceroprotic, sacroiliac, hernial, and other specific conditions will be shown. Experts from the Camp staff will be in attendance to answer specific questions.

Canadian Radium & Uranium Corporation, New York (Booth 30). A visit to this exhibit will remind medical men that all needs for radium in the Western Hemisphere can now be supplied wholly within this hemisphere. This situation follows the successful development of the rich reserves of ore at Great Bear Lake in the Canadian subarctic and the completion of large modern refining facilities at Fort Hope, Ontario. As sole sales agent for the output, this company offers this high-purity radium in any form and any type of container. For further interesting details, call at the booth.

Ciba Pharmaceutical Products, Inc., Summit, New Jersey (Booth 9). There will be found the well-known Ciba specialties. Latest information concerning Perandren, Di-Ovoeylin, and our other gynecogenic preparations will be available, together with literature describing their clinical application where androgens and estrogens are indicated. Representatives of the firm will be in attendance and will be glad to answer any questions in regard to the products displayed.

Cochrane Physicians' Supplies, Inc., New York (Booth 40), have endeavored to make their exhibit most attractive and interesting and well worth visiting. On display will be surgical and diagnostic instruments, cauteries, furniture, sterilizers, dressings, glassware, lamps, syringes, suture and hypodermic needles, physicians bags, pumps, rubber goods, and short-wave and galvanic machines.

The Cream of Wheat Corporation, Minneapolis, Minnesota (Booth 22), will exhibit enriched 5-

ERTRON

Reg. U.S. Pat. Off.

PRICES REDUCED

Your acceptance of ERTRON, doctor, together with the improved production facilities in our new laboratories, enables us to announce to the medical profession a reduction of ONE-THIRD in the price of ERTRON.

More doctors than ever before are effectively treating arthritis with ERTRON. This increased volume has made possible economies in our operating costs. We are passing these savings on to your patients as another contribution from our laboratories to the crusade against the ravages of arthritis.

The new retail prescription price of ERTRON, effective immediately, is:

BOTTLES OF 100 \$8.00 BOTTLES OF 50 \$4.50

ERTRON is made only in the distinctive two-color, hard gelatin capsule.

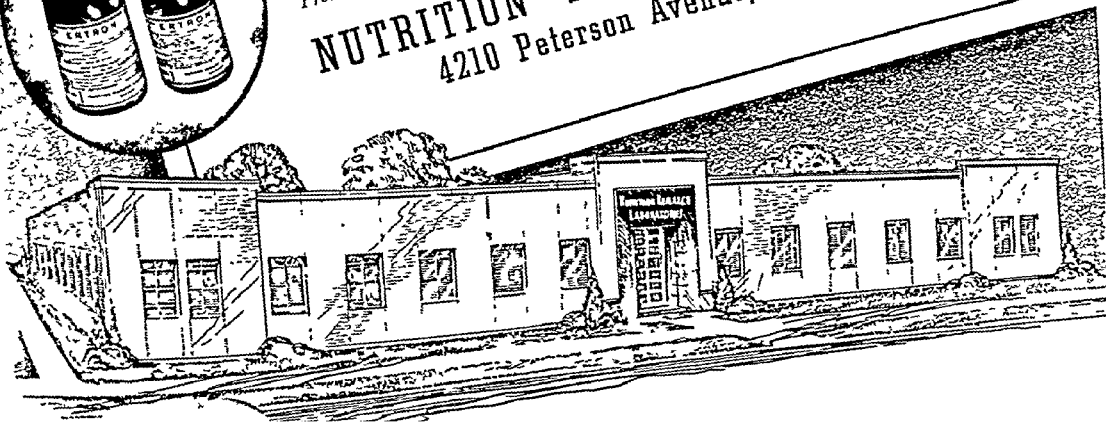
ERTRONIZE THE ARTHRITIC

Of the many therapeutic measures which have been advanced for the treatment of arthritis, ERTRON stands out for its proven safety and effectiveness.

An outline of suggested dosage and administration is available on request.

Products of Nutrition Research Laboratories are promoted only through the medical profession.

NUTRITION RESEARCH LABORATORIES
4210 Peterson Avenue, Chicago, Illinois



Minute "Cream of Wheat." This improved cereal is completely cooked in five minutes and has been fortified with additional Vitamin B₁ (Wheat Germ and Thiamin), iron, calcium, and phosphorus.

The Denver Chemical Mfg. Company, New York (Booth 78). Galatest will be exhibited and demonstrated. A dry reagent for diabetic sugar, Galatest is simple, accurate, economical. One drop of urine on a small quantity of powder and the reaction is completed instantaneously. No test tubes, no measuring, no burners.

Doak Company, Inc., Cleveland (Booth 41). Physicians are cordially invited to visit their exhibit where the well-known line of Doak Dermatological Specialties will be displayed. Most prominent among these are Lotio Alsulfa (liquid cream of colloidal sulfur), Tersus (liquid skin cleanser pH 6, 5, considered nonallergic), Heliobrom and Heliobrom Lotion (indicated in treatment of pruritus), Cot-Tar (an elastic coating of tar). Doak Company also exhibits the original colloidal sulfur (Sulfur-Doasporal) ampules for intramuscular and intravenous injections in treatment of arthritis.

The Doho Chemical Corporation, New York (Booth 46), Animated Pathological Ear Exhibit—the Auragan Exhibit consists of a model of the human auricle four feet high together with a series of twenty-four three-dimensional ear drums, modeled under the supervision of outstanding otologists. Each of these drums depicts a different pathologic condition based upon actual case observation and prepared, in so far as possible, with strict scientific accuracy so as to be highly instructive and interesting to all physicians.

Effervescent Products, Inc., Elkhart, Indiana (Booth 52), will display Clinitest—the new 1 minute tablet test for sugar in the urine. Expert technicians will be on hand to demonstrate the simplicity, speed, and reliability of this new improved method of qualitative urine-sugar analysis.

J. H. Emerson Co., Cambridge, Massachusetts (Booth 108), will demonstrate the wide range of usefulness of the Emerson Resuscitator, now obtainable in a variety of models, including the oxygen-operated hospital and portable units together with the new hand-operated field units; as well as the Emerson Respirator, now the demonstrated leader in the respirator field, the Humidox Humidifier, and the Suction-Pressure Apparatus.

Endo Products, Inc., Richmond Hill, New York (Booth 80), cordially invites the members of the Medical Society of the State of New York, attending the Convention, to visit their exhibit. Trained representatives will be on hand to discuss its complete line of pharmaceuticals and ampule solutions, including Estromone, Entromone, and other hormone products which have been so well received by the profession in the past. We also extend a cordial invitation to

visit our laboratories in Richmond Hill to view the making and filling of sterile solutions in ampules and vials.

H. G. Fischer & Company, Chicago and New York (Booth 110), are displaying their new models of x-ray and short-wave apparatus which are so distinctive. The complete H. G. Fischer Mfg. Co. line includes shockproof x-ray apparatus, short-wave units, combination cabinets, galvanic and wave generators, ultraviolet and infrared lamps and many other units, accessories, and supplies. Physicians are invited to ask for demonstrations of apparatus in which they are interested and to consult with Fischer representatives regarding technics made available by Fischer apparatus.

C. B. Fleet Co., Inc., Lynchburg, Virginia (Booth 59). Phospho-Soda (Fleet) has been an ethical product for over half a century. It is a highly concentrated, purified, aqueous solution of the two U. S. P. phosphates in stable form. It is nontoxic, rapid but mild in action, without irritation of the gastric or intestinal mucosa. It is indicated in hepatic and gallbladder dysfunctions, and when a thorough eliminating and cleansing action is desired on the upper and lower gut.

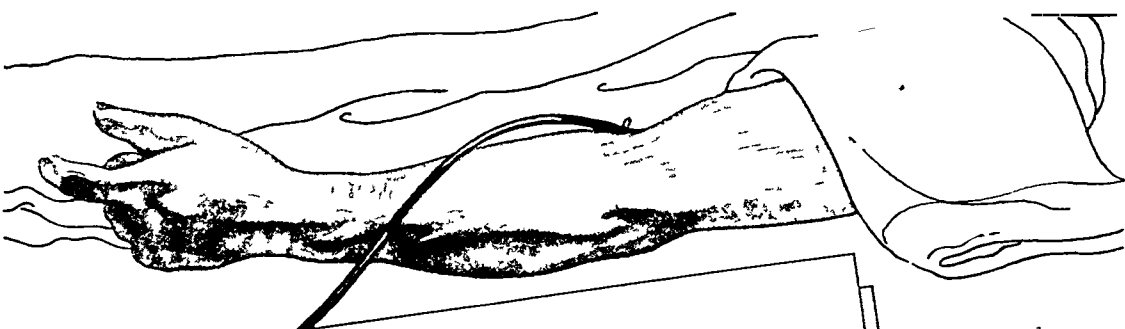
General Electric X-Ray Corp., Chicago (Booths 16 and 17). To hospital administrators and physicians who desire a fresh perspective of their present x-ray facilities, in view of prevailing standards in modern medical practice, we offer this suggestion: Arrange to have a G-E x-ray representative call, at your convenience to give you the benefit of his knowledge and experience in a survey of this kind. New York State has two G-E x-ray branch offices, one in New York City and the other in Rochester. A manager, twelve salesmen, and ten servicemen work out of the New York office, and a manager, five salesmen, and four servicemen are stationed in Rochester. You can rely on them to offer you practical and helpful suggestions.

Gerber Products Company, Fremont, Michigan (Booth 79). Gerber Baby Foods have grown in variety so fast that we will welcome your call at our booth to see the latest arrivals.

Otis E. Glidden & Co. Inc., Evanston, Illinois (Booth 104), will exhibit their product, Zymenol, a brewer's yeast emulsion for constipation and colitis. The booth will be in charge of Mr. Roy Erickson, eastern supervisor for Otis E. Glidden & Co.

Hanovia Chemical & Mfg. Co., Newark, New Jersey (Booth 67), will exhibit a complete line of new self-lighting ultraviolet light quartz lamps. Don't fail to ask for a demonstration of the new Aero-Kromayer cooled by air instead of water. Short and Ultra Short Wave equipment and a complete line of Sollux Radiant Heat lamps will be shown. Courteous and competent representatives will be on hand to greet you.

FOR BLOOD DONORS



...The hemoglobin regeneration rate increases nearly 50% and the recovery period is drastically shortened when small amounts of iron are administered.†



HEMATINIC PLASTULES*

Hematinic Plastules provide iron in the *ferrous* state quickly available for conversion into hemoglobin. They are easy to take and well tolerated. Each Plastule contains dried ferrous sulphate U.S.P.X. 5 gr. and yeast concentrate .75 gr., supplied in bottles of 50, 100 and special hospital size of 1,000. Also available with Liver Extract.

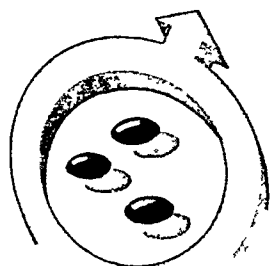
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Ferrous Iron Sealed from the Air but not from the Patient

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†Fowler and Barer. "Rate of Hemoglobin Regeneration in Blood Donors." J A M A., 118:421.1942.

*Reg. U. S. Pat. Off.



THE BOVININE COMPANY • CHICAGO, ILLINOIS

Harold Surgical Corp., New York (Booth 58), will exhibit a new model shockproof X-ray apparatus with a motor-driven Table and automatized controls. Also on exhibition will be a Physiotherapy apparatus and Electro-cardiographic apparatus. A special feature this year will be the establishing of an Air Raid Defense Department and physicians may obtain complete information at this booth. In charge will be Mr. S. Mehlinger and Mr. J. Shnitzer.

H. J. Heinz Co., Pittsburgh (Booth 49). The Heinz exhibit featuring Strained and Junior Foods merits your thoughtful attention if you prescribe for infant feeding or adults on soft diets. The popular Nutritional Charts have something new added—a section on the "Application of the Science of Nutrition to Dietetics." While you're at the exhibit, register for the tenth edition. Mr. F. B. Heard and Mr. S. R. Yarrow are the Heinz representatives.

Hoffmann-La Roche Inc., Nutley, New Jersey (Booth 2).

Holland-Rantos Company, Inc., New York (Booth 94). Modern contraceptive technique will be graphically illustrated with a motion picture, and all the various contraceptive materials including both the Koromex and Hyva diaphragms, Koromex jelly and H-R Emulsion cream, together with the most complete line of contraceptive specialties, will be demonstrated at the booth of the Holland-Rantos Company. Displayed, also, will be the new Rantex Surgical Masks and Caps, now being used by hospitals all over the country. They represent an outstanding development.

Horlick's Malted Milk Corporation, Racine, Wisconsin (Booth 18), cordially invites you to visit their booth and enjoy a refreshing serving of chocolate malted milk. This palatable, delicious and easily digested food-drink is indicated as a supplement to liquid and semiliquid diets. It is basic nutrition because it is a scientifically well-balanced combination of proteins and carbohydrates of full-cream milk and choice grains.

Hynson, Westcott & Dunning, Inc., Baltimore (Booth 47), will have an exhibit featuring Mercurochrome and various pharmaceutical specialties of their manufacture. There will also be a display of diagnostic apparatus and ampule solutions which have been developed in the firm's laboratories in cooperation with physicians. Competent representatives will be in attendance to demonstrate the products. Literature and samples will be available to physicians who are not already familiar with products exhibited.

Jones Metabolism Equipment Company, New York (Booth 42), invites you to see the original waterless metabolism apparatus. The exclusive features of the Jones include a double slope tracing which eliminates the possibility of technical errors; a simplified and accurate slide rule for calculations, and the life-time guarantee for accuracy greater than 99 per cent. The twenty-

three years of experience of the Jones Metabolism Equipment Company have made it possible for them to produce a foolproof, simple, and accurate machine.

Kellogg Company, Battle Creek, Michigan (Booth 77). Kellogg's ready-to-eat cereals have an important part in the national nutrition program. Corn Flakes and Rice Krispies are included freely in wheat-free and low residue diets. Pep has been enriched with vitamins B₁ and D, the vitamins so frequently lacking in the average American diet. Kellogg's other whole wheat and bran cereals—Wheat Krispies, Krumbles, Shredded Wheat, All-Bran and Bran Flakes—are rich in minerals and vitamin B, too. Ask for your set of medical reprints covering recent research with these products.

Charles B. Knox Gelatine Co., Inc., Johnstown, New York (Booth 10). Their exhibit features the medical and dietary uses of Knox Plain Sparkling Gelatine. Attendants will gladly discuss the protein value of gelatine and explain how the production and laboratory control makes Knox Gelatine a quality product essential for special dietary use. Literature, including dietaries and recipes, is free.

Lederle Laboratories, Inc., New York (Booth 60), will feature leading medical products: Hay Fever; Tuberculin Patch Test; Tetanus Toxoid and the complete line of B Complex vitamins including Vi-Ferrin (a preparation of ferrous sulfate and B Complex) introducing Lederle's new Vitamin B Tablets.

Thomas Leeming & Company, Inc., New York (Booth 53), invite you to inspect a new exhibit incorporating full color photographs of a number of pathologic skin conditions frequently encountered in practice. These photographs, from the collection of an outstanding dermatologist, demonstrate the typical lesions in each of the conditions, thus facilitating accurate diagnosis. The exhibit deals with the use of Calmitol in the control of pruritus associated with such conditions. Also exhibited will be two recently introduced preparations, Amend's Solution, an aqueous iodine solution for internal administration, notable for its palatability and low toxicity, and Magmasil, a unique magma of magnesium trisilicate which has been called "the closest approach to the theoretically ideal antacid" in the treatment of peptic ulcer.

Lepel High Frequency Laboratories, Inc., New York (Booth 39), will exhibit their complete line of physical therapy equipment including their latest developments in short-wave generators, ultraviolet lamps, and their new combination low voltage equipment. You are cordially invited to visit their booth and have the representative demonstrate these new models including the electro surgery.

The Liebel-Flarsheim Co., Cincinnati, Ohio (Booth 43). Stop and see the latest models of L-F Short and Ultra-Short Wave Generators. . . as well as the famous Bovie Electrosurgical Units and other newly developed, interesting

Solution Sodium Ascorbate Squibb

In Surgical Wound Healing



Wound in patient with Vitamin C deficiency shows failure to heal after 10 days



Healing after administration of 1000 mg. ascorbic acid intravenously daily for 10 days

VITAMIN C has been shown to be an essential factor in wound healing. Reports of its value have led to its administration both pre- and post-operatively in cases where a deficiency of ascorbic acid is known to exist.

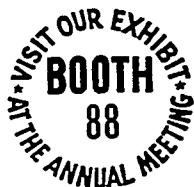
When such a deficiency is apparent and when the patient is allergic to or dislikes foods containing Vitamin C, or where there is an interference with assimilation of the vitamin, ascorbic acid supplementation is indicated.

Solution Sodium Ascorbate Squibb (for intravenous injection) is of particular value for those undergoing surgical procedures. It is likewise indicated in severely ill patients and those in whom some condition such as gastric anacidity or intestinal disease may result in faulty utilization of the vitamin.

Solution Sodium Ascorbate Squibb is supplied in boxes of 6 and 25 ampuls, each containing sufficient material for the withdrawal and administration of 1 cc.—containing an amount of sodium ascorbate equivalent to 100 mg. ascorbic acid. Also in boxes of 6 x 1 cc. ampuls containing the equivalent of 500 mg. ascorbic acid per cc.

ALSO AVAILABLE

Ascorbic Acid Squibb (Cevitamic Acid, Vitamin C Crystalline) *for oral use*—Supplied in 25-mg., 50-mg. and 100-mg. tablets. One 25-mg. tablet, containing 500 U.S.P. XI units of Vitamin C, is equivalent in Vitamin C activity to about 1½ ounces of fresh orange juice. All sizes are supplied in bottles of 40, 100 and 500 tablets.



For literature address the Professional Service Department, 745 Fifth Ave., New York, N. Y.

E. R. SQUIBB & SONS

Manufacturing Chemists to the Medical Profession Since 1858

Physical Therapy apparatus and accessories. It will be a pleasure to demonstrate this modern equipment to you and the time spent at Liebel-Flarsheim will prove well worth your while.

Loeser Laboratory, Incorporated, New York (Booth 65), a subsidiary of the Wm. S. Merrell Company, offers an unusually interesting exhibit on ampules for intravenous and intramuscular injection. The high quality and standardized potency of these products have gained wide recognition among many members of the profession. A cordial welcome awaits you at their booth.

The Maltine Company, New York (Booth 12) will display, as part of their exhibit, the new quart, economy size of Maltine with Cod Liver Oil. The exhibit will show the care and precision used in selecting the fine materials that are included in the manufacture of this widely known product.

T. H. McKenna, Inc., New York (Booths C and D), will have a complete composite display of all the new and standard books of all medical publishers. In the belief that it will be a convenience to be able to examine the books of all publishers in one joint exhibit, the various publishers have cooperated in the arrangement of this exhibit.

Mead Johnson & Company, Evansville (Booths 34, 35 and 36). "Servamus Fidem" means We are Keeping the Faith. Almost every physician thinks of Mead Johnson & Company as the maker of Dextri-Maltose, Pabulum, Oleum Percomorphum, and other infant diet materials. But not all physicians are aware of the many helpful services this progressive company offers physicians. A visit to their exhibit will be time well spent.

The Medical Film Guild, New York (Booths 20 and 21).

Merck & Co., Inc., Rahway, New Jersey (Booths 69 and 70). We hope every doctor registered will visit this exhibit. The representatives present will be pleased to inform interested physicians regarding the clinical applications of the parasympathetic stimulant, "Mechoyl," and the convenience of the inhalation anesthetic, "Vinethene," for short surgical procedures. Literature on the vitamins, B₁, C, Riboflavin, and Nicotinic Acid will also be available.

Mooradian High Frequency Laboratories, Bogota, New Jersey (Booth 24), will be glad to welcome you at their exhibit and discuss any problems that you may have in reference to high frequency electromedical and electrosurgical apparatus. They will have on display the latest developments in short-wave apparatus, as based on their twenty-five years experience in the field.

The Mutual Pharmacal Company, Inc., Syracuse, New York (Booth 29), will exhibit special products such as: Tablets Be-Vi-Plex, Vita-Liv-Ferin. Almutal, Elixir Sedmutal No. 2, Estro-

genic Substance, various vitamin preparations and other products of special interest.

National Livestock and Meat Board, Chicago (Booth 8), invites you to visit their display portraying the importance of Meat as a source of the B vitamins. Wax models of a normal diet featuring the thriffter meat cuts will also be shown. Register for new twenty-four page book, *Better Nutrition for the Nation*, and other literature.

New York Medical Exchange, New York (Booth 38). Has the draft board worked havoc with your staff of physicians? If so, you can replace them from among the candidates whose histories may be seen at the exhibit of the New York Medical Exchange. You can also see the credentials of nurses, technicians, secretaries, record-room librarians, etc.

Nutrition Research Laboratories, Chicago (Booth 76), will show by means of x-rays, transparent photographs, wax models, and scientific literature the important types of chronic arthritis and the response of these to Ertron. The therapeutic advantages of Bezon, a whole natural vitamin B complex, are also depicted.

Ortho Products, Inc., Linden, New Jersey (Booth 87), will feature the Ortho Line, the physicians' line. It will be decorated with line drawings of scenes from our laboratory. The exhibit features the scientific background of their products, stressing the importance of medical and clinical research as applied to products of this kind. In attendance will be P. B. Hofmann, president; B. J. Todd, vice-president; and F. B. Whitlock, eastern divisional manager.

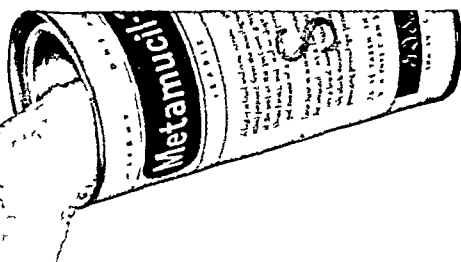
Paine Hall School, New York (Booth 66).

Parke, Davis & Company, Detroit, Michigan (Booth 4), will feature the sex hormones, Theelin and Theelol; antisyphilitic agents, such as Mapharsen and Thip-Bismol; posterior lobe preparations, including Pituitrin, Pitocin, and Pitressin; and various Adrenalin Chloride Preparations.

The E. L. Patch Company, Stoneham, Massachusetts (Booth 32), will exhibit some of its specialties, including Gadoment, Gadolets, and Kondremul. Patch Company representatives will be glad to greet their friends in the profession and give them full information concerning these and other Patch products.

The Pelton & Crane Company, Detroit, Michigan (Booth 97), are exhibiting Sterilizers, Operating Lights and Cuspidors, specially designed for use in the industrial clinic and first-aid room, as well as general practitioners' offices. Featured is the popular Tri-Plex combination with double storage cabinet, recessed instrument sterilizer and self-contained automatic autoclave. Mr. I. H. Fell, in charge.

Smoothage



... A SUCCESSFUL CONSTIPATION THERAPY

The correction of faulty elimination requires that the bowel mucosa be treated with the utmost consideration

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For corrective, protective smoothage, prescribe—

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Ethical Pharmaceuticals Since 1888

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Pet Milk Sales Corporation, St. Louis, Missouri (Booths 61, 62, 63 and 64), will display an actual working model of a milk condensing plant in miniature. This exhibit offers an opportunity to obtain information about the production of Irradiated Pet Milk and its uses in infant feeding and general dietary practice. Miniature Pet Milk cans will be given to each physician who visits the Pet Milk Booth.

Petrogalar Laboratories, Inc., Chicago (Booth 89), offer, in addition to samples of the Five Types of Petrogalar, an interesting selection of descriptive literature and anatomical charts. Ask the Petrogalar representatives to show you the Habit Time booklet. It is a welcome aid for teaching bowel regularity to your patients.

Philip Morris & Co., Ltd., Inc., New York (Booth 25), will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hydroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject, and problems on the physiologic effects of smoking.

The Chas. H. Phillips Chemical Co., New York (Booth 106). Phillips' Milk of Magnesia, a standard to the medical profession for more than three generations, deserves consideration as a superior agent for securing the desired level of stomach acid in cases of peptic ulcer. Visit their exhibit to discuss new and startling concepts on antacid therapy.

The Prometheus Elec. Corp., New York (Booth 103).

The Radium Emanation Corporation, New York (Booth 91), will exhibit a wide variety of instruments and applicators used in modern radium therapy, including permanent and removable composite, leakproof Radon Seeds. The advantages of these seeds will be demonstrated by magnified sections showing their constructions in detail.

Ralston Purina Company, Inc., St. Louis, Missouri (Booth 31), cordially invites physicians to visit their exhibit to see Miniature Ralston Cereal Mill, Instant Ralston Prepared; to register for dietary literature on Ralston and Instant Ralston; for Obesity and Allergy Diets; for Food Diaries and Charts; for samples, Ralston, Instant Ralston, Ry-Krisp, Shredded Ralston.

Ritter Company, Inc., Rochester, New York (Booths 5, 6, and 7), will feature its Ear, Nose and Throat Units, together with the Motor Chair, both of which were introduced to the medical profession about eighteen months ago. In addition the following items will be shown: Sterilizers, Bone Surgery Engines, X-rays, Compressors, Fluorescent Light, and Stools. Ritter representatives from Rochester will be in attendance, in addition to territory representatives.

S.M.A. Corporation, Chicago (Booth 90). Among the technical exhibits at the convention this year is an interesting new display, which represents the selection of infant feeding and vitamin products of the S.M.A. Corporation. Physicians who visit this exhibit may obtain complete information, as well as samples, of S.M.A. Powder and the special milk preparations—Protein S.M.A. (Acidulated), Alerdex, and Hypo-Allergic Milk.

Safety First Supply Company—E & J Resuscitator, Pittsburgh, Pennsylvania (Booth 56). The latest models of the E & J Resuscitator—Inhalator-Aspirator will be on display at this exhibit. Members of the Society are cordially invited to witness demonstrations of this ingenious automatic breathing machine and hear something of its excellent record in the many fine clinics where it is in use.

Sanborn Company, Cambridge, Massachusetts (Booth 13). Outstanding new apparatus for cardiac diagnosis and research will be shown at the Sanborn Company exhibit: The Tri-Beam Stetho-Cardiette, which permits simultaneous phonocardiographic, electrocardiographic, and sphymographic recordings, plus amplified auscultation; and a new blood pressure and oscillographic attachment which produces simultaneous registration of the oscillographic waves and Karatkov sounds. Also on display will be the Waterless Metabolism tester for 1942; and the Cardiette, Stetho-Cardiette and Cardioscope.

Sandoz Chemical Works, Inc., New York (Booth 11). Physicians will be interested in Synergen (ergotamine tartrate) for the dramatic relief of migraine headache. Newly released products include Syrup Neo-Calglucon (calcium gluconogalactogluconate), a palatable, highly concentrated preparation for oral calcium therapy readily absorbed from the digestive tract; Cedilanid, a stable preparation of lanatoside C, a crystalline glycoside from Digitalis Lanata not present in purpura. Other members of the Sandoz group of pure cardioactive glycosides include Digilanid, Strophosid, Scillaren and Scillaren-B. Also displayed are Bellergal, Belladenal, and Bellafoline—sedatives of the neurovegetative system; Calglucon Effervescent Tablets and Chocolate Flavored Tablets—the original calcium gluconate products; Neo-Calglucon Ampuls—the improved preparation for parenteral calcium therapy.

Saratoga Springs Authority, New York (Booth 3)

Schering Corporation, Bloomfield, New Jersey (Booth 71). All the highly advanced Schering hormones are on display at the Schering exhibit, which is practically a survey of recent endocrine progress. In addition, there are some other particularly interesting products such as Sulamyd (Sulfacetimide) for the treatment of urinary tract infections, and Sulfadiazine-Schering, most efficient sulfonamide for pneumonia. Members of the Medical Research Division will be present and welcome discussion of problems.



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Myocardial Stimulant and Powerful Diuretic, Effective in Bronchial Asthma, Paroxysmal Dyspnea and Cheyne-Stokes Respiration

PROMPT RELIEF of Persistent Extreme Dyspneic Status Asthmaticus.

Herrmann, G. and Aynesworth, M. B. (J. Lab. Clin. Med. 23:135, 1937)

McMahon, A. and Nussbaum, R. A. (Southern Med. J. 33:1107:1940)

FAVORABLE ACTION on Bronchial Obstruction both in Bronchial Asthma and Cardiac Failure.

Green, G. H., Paul, W. D. and Feller, A. E. (J. A. M. A. 109:1712, 1937)

Brown, A. G. and Blanton, W. B. (Southern Med. J. 33:1184, 1940)

DRAMATIC IMPROVEMENT in Respiratory Depression with Cheyne-Stokes Respiration occurring in the course of Renal or Cardiac Failure.

Gold, Harry (J. A. M. A. 112:1, 1939)

McMahon, A. and Nussbaum, R. A. (ibid.)

EXTREMELY VALUABLE as Diuretic in Congestive Cardiac Failure.

Herrmann, G. and Aynesworth, M. B. (J. Lab. Clin. Med. 18:902, 1933)

Gold, Harry (ibid.)

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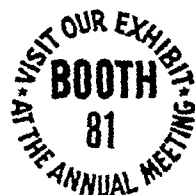
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SIG: One or two capsules a day for four days. Then increase dosage by one capsule a day every four days until maximum tolerance of patient is reached.

AVAILABLE in bottles of 50, 100, and 1,000 capsules. \$4.50 per 100 capsules on prescription.

Literature on Request

BREWER & COMPANY, Inc.

WORCESTER, MASS.

PHARMACEUTICAL CHEMISTS SINCE 1852

Schering & Glatz, Inc., New York (Booths 44 and 45). New technics in intravenous infusion therapy are described in special service bulletins which will be available for visitors at the Sterisol Division exhibit of Schering and Glatz, Inc., manufacturers of dextrose and saline solutions in Sterisol Ampoules. Laboratory-trained attendants will demonstrate these procedures, including a simple method of eliminating air from the tubing when getting an infusion of dextrose ready.

G. D. Searle & Co., Chicago (Booth 109), will show a number of the new Products of Searle Research which have contributed so much to the recent armamentarium of the physician. Products such as Searle Aminophyllin, Metamucil-2, Ketochole, Furmerane, Floraquin, Gonadophysin are results of this research which will shortly be greatly expanded in the new Searle Research Laboratories now nearing completion. An illustration of the new laboratories will be featured in the exhibit.

Sharp & Dohme, Inc., Philadelphia (Booths 83 and 84), will have their modern display featuring "Lyovac" Normal Human Plasma, other "Lyovac" biologicals and biological specialties. There will also be on display pharmaceutical specialties, including the new Liquid "Digitol" and Tablets "Digitol" which are clinically standardized on humans, "Delvinal" Sodium, "Propadrine" Hydrochloride products, "Rabelon," "Depropanex," and "Prohexinol." A cordial welcome awaits all visitors.

Smith, Kline & French Laboratories, Philadelphia (Booth 95), again welcome the opportunity to display their products, including Benzadrine Inhaler, Benzadrine Sulfate Tablets, "Paredrine Hydrobromide Aqueous," and Pentanucleotide, to the members of the Society. Their representatives will be only too glad to discuss the products exhibited and will endeavor to answer any questions that may arise concerning them.

C. M. Sorensen Company, Inc., New York (Booth 50). It will be their pleasure to present for your inspection several new models of treatment outfits covering ear, nose, and throat work, including ether and suction apparatus, portables for bedside use, office and surgical requirements adequately met in these new smart productions.

E. R. Squibb & Sons, New York (Booth 88), will endeavor to convey scientific and pertinent information about some of their most important products by striking visual methods. Numerous photographs, charts, and demonstration packages will graphically point up the important features of these products, among which will be included new additions to their Vitamin, Glandular and Specialties lines. Well-informed representatives will be on hand, moreover, to welcome visitors and to furnish further information on the products displayed.

Frederick Stearns & Company, Detroit, Michigan (Booth 54). Doctors are cordially invited to visit their attractive convention display to view

and discuss outstanding contributions to medical science developed in the Scientific Laboratories of Frederick Stearns & Company. Their professional representatives will be pleased to supply all possible information on the use of such outstanding products as Neo-Synephrin Hydrochloride for intranasal use, Mucilose for bulk and lubrication, Ferrous Gluconate, Potassium Gluconate, Gastric Mucin, Susto, Trimas, Appella Apple Powder, Nebulator with Nebulin A, and their complete line of Vitamin products.

The Sun-Rayed Company (Div. Kemp Bros. Packing Co.), Frankfort, Indiana (Booth 82), producers of Kemp's Sun-Rayed Brand Tomato Juice. The natural, pasteurized juice of a special strain of Indiana tomatoes, sun-ripened on the vines and U. S. Government graded. The whole, carefully cored tomato is converted into juice by Kemp's patented process No. 1,746,657, which utilizes all the tender solids for high retention of vitamins A, B₁, and C, insures nonseparating color and never-thin-or-watery consistency. Samples served at booth. Representative in charge: Seggerman Nixon Corporation, 111 Eighth Avenue, New York, Mr. Frederick J. Nixon.

Taylor Instrument Companies, Rochester, New York (Booth 48). The Tycos Aneroid Sphygmomanometer with hook-type cuff will be featured at this exhibit. Of particular interest to doctors will be the Tycos Mercurial Sphygmomanometer and the related "lag error demonstration" showing the accuracy with which Tycos Mercurial Sphygmomanometers operate. Mr. R. F. Roda of the Medical Sales Department and Mr. Edward Hurlburt of the Advertising Department will be in attendance.

Therm-O-Rite Products Company, Buffalo, New York (Booth 98).

U. S. Vitamin Laboratories, New York (Booth 55).

Vegex Corporation, New York (Booth 28).

Walker Vitamin Products, Inc., Mt. Vernon, New York (Booth 57), Ethical Vitamin Specialties as well as a complete line of standard vitamin tablets are exhibited by this firm. Featured items are their Mineralized Vitamin Tablets, their capsules of Dicalcium Phosphate with Vitamins B-C-D, and their high potency Vitamin B Complex Products.

Wallace & Tiernan Products, Inc., Belleville, New Jersey (Booth 19). Azochloramid is an organic chloramine, capable of killing all types of microorganisms upon a wound without damage to vital tissue cells. Distinguished from all other chlorine germicides by its remarkable stability this preparation is virtually nonirritating and nontoxic. It is both fat and water soluble. Azochloramid is used in the treatment of all types of infected wounds and cavities. As a prophylactic agent in postoperative and traumatic wounds it has proved to be of great value.

The Wander Company, Chicago (Booth B).



Q. I've heard that canners just use the surplus crops. Is that true?

A. No. As a matter of fact, many of the varieties used for canning can not be obtained in any other form. Most canners contract for their crops for canning, months in advance. They usually specify the variety of fruit or vegetables wanted. And in many cases this means furnishing seeds or plants especially developed for their purposes. (1)

American Can Company, 230 Park Avenue, New York, N. Y.

-
- (1) 1939. Agr. Expt. Sta. Univ. Wisconsin, Bul. 444.
 1939. Univ. Maryland Agr. Expt. Sta. Bul. 425.
 1937. U. S. Dept. Agr. Farmers Bul. 1253.
 1937. Univ. Illinois Agr. Expt. Sta. and Extension Service in Agr. and Home Econ. Circular 472.
 1929. Univ. Maryland Agr. Expt. Sta. Bul. 318.

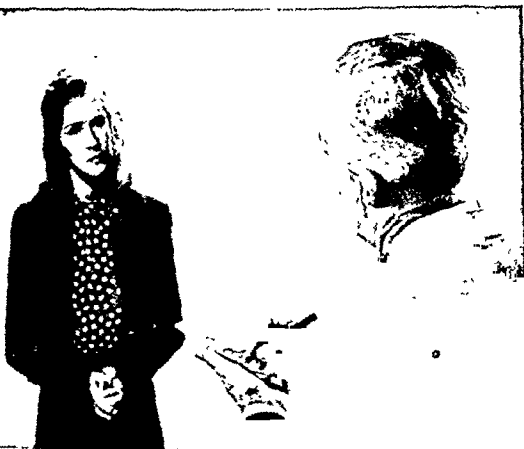


The Seal of Acceptance denotes that the nutritional statements in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

White Laboratories, Inc., Newark, New Jersey (Booth 23). White's Cod Liver Oil Concentrate will be presented at this exhibit for your consideration. Here you may obtain complete information concerning the entire field of cod liver oil concentration, with clinical data substantiating the efficacy of White's Liquid, Tablet, and Capsule Concentrates.

Winthrop Chemical Company, Inc., New York (Booth 85), extends a cordial invitation to visit their exhibit where representatives will gladly discuss the latest therapeutic contributions made by this firm.

John Wyeth & Brother, Inc., Philadelphia (Booths 92 and 93), cordially invites you to visit their exhibit where the Wyeth Hemo-guide, an aid to Hematologic Diagnosis, will be exhibited. In addition, among the specialties to be presented, are Amphojel, Wyeth Alumina Gel, for the management of peptic ulcer and hyperacidity, B-Plex Elixir, Wyeth complete Vitamin B Complex; Bepron, Wyeth beef liver and iron for the Nutritional anemias; Bewon Elixir, the palatable appetite stimulant and Kaomagma for the control of diarrhea in the colitis.



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ENDOGLOBIN

with Vitamin B₁

A useful and palatable reconstructive and hematonic tonic of proven value in asthenia, anorexia, "run down" conditions and particularly in the recuperative stages of serious infectious disease or major operative procedure. Excellent for children. Contains no sugar or alcohol.

ENDOGLOBIN is composed of beef blood, iron (as iron peptonate), liver concentrate, glycerophosphate and crystalline vitamin B₁ (Thiamine Hydrochloride, 3 mgs. to the ounce).

Supplied in 8 and 16 ounce bottles. Dosage: Adults 1 tablespoonful, Children, 1 to 2 teaspoonfuls, before meals.

Information on request

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This manual is presented as a guide for the general practitioner and the insurance carrier in the handling of compensable injuries. It does not intend to compete with text books on the subject matter. Its chief aim is to illuminate those aspects and problems which, in the management of disabilities covered by workmen's compensation, differ from the familiar considerations in the treatment of non-compensable injuries and diseases. The subject matter is limited to general diagnostic and therapeutic problems, typical phases of the workmen's compensation procedure. This includes a discussion of questions such as the aggravation of pre-existing disease, the causal relation between injury and disability, and expert opinion and disability evaluation.

Industrial and railway surgeons may refer to the difficult problems of causal relation and of aggravation of pre-existing disease in the pertinent chapters.

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191 Pages

2 Illustrations

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To the Medical Society of the State of New York

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 Tickets, Mrs. Milton B. Bergmann

The Annual Convention of the Woman's Auxiliary to the Medical Society of the State of New York will be held on April 27, 28, 29, 30, 1942, at the Waldorf-Astoria, New York. The headquarters will be the Starlight Roof.

All doctors' wives, whether members of a Woman's Auxiliary to a County Medical Society or not, are urged to register at the Registration Desk in the Corridor to the Starlight Roof and are cordially invited to participate in all parts of the program.

Sunday, April 26

2:00 P.M.—Registration—Corridor to Starlight Roof
 4:00 P.M.

Monday, April 27

9:00 A.M.—Registration of Delegates—Corridor to Starlight Roof
 12 Noon

9:00 A.M.—General registration for all doctors' wives daily throughout the Convention—Corridor to Starlight Roof
 5:00 P.M.

9:00 A.M.—Registration for Auxiliary Dinner (7:00 P.M.) and Luncheon (Wednesday, 1:00 P.M.) and Tea (Tuesday, 3:30 P.M.)—Corridor to Starlight Roof
 4:00 P.M.

10:00 A.M.—Preconvention Meeting—Starlight Roof
 12 Noon

10:00 A.M.—Hobby Show—Palm Room
 10:00 P.M.

1:00 P.M.—Invocation—Rev. Dr. Lewis E. Christian

1:00 P.M.—First half of House of Delegates Meeting—Starlight Roof
 4:00 P.M.

1:30 P.M.—Address by Louis H. Bauer, M.D.
 7:00 P.M.—Annual Banquet, Auxiliary—all doctors' wives and lay friends—Starlight Roof (secure tickets at Registration Desk before 4:00 P.M.)

Guest Speaker—Mrs. R. E. Mosiman, President of the Woman's Auxiliary to the American Medical Association

Tuesday, April 28

9:00 A.M.—Registration continued—Corridor to Starlight Roof
 5:00 P.M.

9:00 A.M.—Registration for Luncheon (Wednesday, 1:00 P.M.) and Tea (3:30 P.M.)—Corridor to Starlight Roof
 3:00 P.M.

9:30 A.M.—Second half of House of Delegates—50th Street Terrace of Starlight Roof
 12 Noon

10:00 A.M.—Hobby Show—Palm Room
 10:00 P.M.

3:30 P.M.—Tea—Louis Sherry Restaurant—Entertainment, Musicales
 5:00 P.M.—Dinner of the Medical Society of the State of New York—Grand Ballroom
 7:00 P.M.

Wednesday, April 29

9:00 A.M.—Registration continued—Corridor to Starlight Roof

9:00 A.M.—Registration for Luncheon—Corridor to Starlight Roof
 12 Noon
 10:00 A.M.—Hobby Show—Palm Room
 10:00 P.M.

9:30 A.M.—Postconvention Meeting of the Executive Board—Blue Room, 4th Floor

11:00 A.M.—Conference with county presidents—Blue Room
 Luncheon

1:00 P.M.

10:00 A.M.

Thursday, April 30

Call for hobbies

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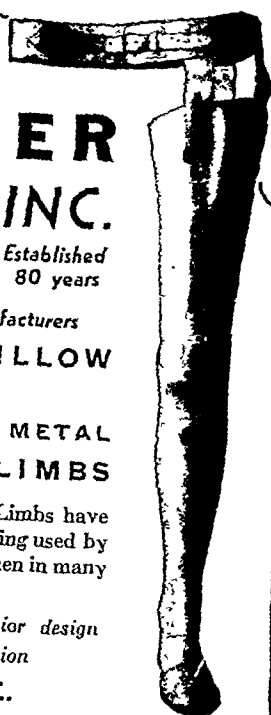
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In every way California and New York wines conform to the most rigid state and Federal standards of quality. All are well developed. True to type.

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This advertisement is printed by the wine growers of California acting through the Wine Advisory Board, 85 Second Street, San Francisco. The non-profit Wine Advisory Board invites your requests for further information about California wines.

Women's Medical Society of New York State

Annual Meeting, New York City—April 26, 27, 1942

Headquarters, the Waldorf-Astoria, Le Perroquet Suite

THE thirty-sixth Annual Meeting of the Women's Medical Society of New York State will be held in New York City, April 26 and 27.

There will be a tea at the Waldorf-Astoria, Sunday, April 26, from 4:00 to 6:00 p.m.

The regular annual meeting will be held on Monday morning, April 27.

The program for Monday is as follows: 9:30 a.m.—Registration; 10:00 a.m. to 12:00 Noon—Business Session; 1:00 p.m.—Luncheon.

From 2:00 to 5:00 p.m. the following scientific session has been planned: "Allergies in Children," Gertrude Felshin, M.D., Mt. Sinai Hospital—discussion: Leoni Claman, M.D., Chief of Department of Allergy, New York Infirmary; "Some Clinical Aspects of Endometriosis," Margaret Sturgis, M.D., Clinical Professor of Gynecology, Woman's Medical College, Philadelphia, Pa. (by invitation); "The General Practitioner's Approach and Management of Breast Malig-

nancies," Rieva Rosh, M.D., Bellevue Hospital Radiation Therapy Department—discussion: Dorothy Bell, M.D., Knickerbocker Hospital, and C. Donlon, M.D., of the City Cancer Clinic.

Dinner will be held at the Town Hall Club at 7:00 p.m. The speakers will be: Marguerite P. McCarthy, M.D., President of the Women's Medical Society of New York State; Emily D. Barringer, M.D., President of the American Medical Women's Association; Oliver W. H. Mitchell, M.D., Chairman of the Council Committee on Public Health and Education of the Medical Society of the State of New York—"Postgraduate Medical Education in New York State"; Marion Craig Potter, M.D., Founder of the Society; Margaret Witter Barnard, M.D., Secretary of New York City Nutrition Program—"The Nutrition Program in Civilian Defense."

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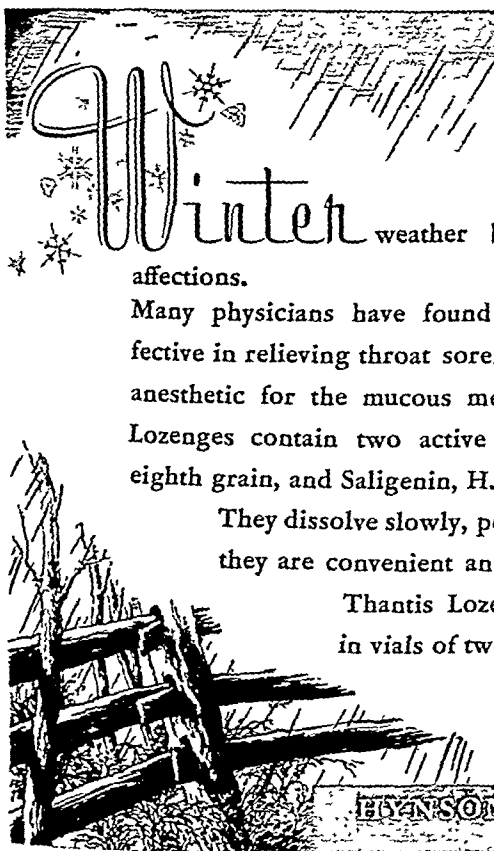
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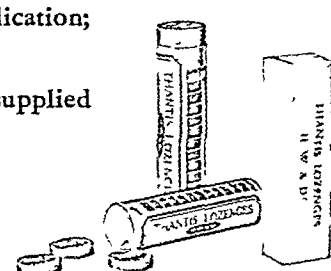
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Woman's Auxiliary

To the Medical Society of the State of New York

THE Annual Convention of the Woman's Auxiliary to the Medical Society of the State of New York will be held on April 27-28-29 and 30, 1942, at the Waldorf-Astoria Hotel, New York City. Headquarters will be on the Starlight Roof. All doctors' wives—whether members or not—are urged to attend.

In a few more months the members of the Woman's Auxiliary to the A.M.A. will be arriving in Atlantic City, New Jersey, for their annual convention, June 8-12. Reservations may be made by sending requests to Haddon Hall, Atlantic City.

County News

Columbia. The February luncheon meeting was held at the General Worth Hotel on the twenty-fourth with Mrs. Harry Parker Van Wagenen of Kingston, State Commander of Woman's Field Army for the Control of Cancer, as guest speaker. She told of publicity for this organization being carried on by press, radio, and by films. Mrs. Bowerhan, president of the Columbia County Auxiliary, gave an interesting report on the semiannual meeting of the State Board held at the DeWitt Clinton Hotel in Albany on February 16-17. Many members of the Auxiliary are doing outstanding work in the Red Cross War Relief Drive.

Fulton. Mrs. J. Edward Grant of Northville presided at the February meeting. The group voted to buy a U. S. Defense Bond. After the meeting a question and answer contest was conducted—in which Mrs. Robert Lenz won the prize.

Kings. Kings County in every way seems to keep its programs timely. The February program, with an American Flag gaily flying on the cover, tells of not only a Valentine Tea, but a discussion of "Your Responsibility in Legislation," "Review of a Current Play," a book review of that very best seller, *Keys of the Kingdom*, and also a few highlights on the kind of medical care provided for Abraham Lincoln and George Washington. The March program was all-out St. Patrick. "Your Responsibility in Government and a Bit of Ireland, Too" was not only timely but extremely interesting. The talk on "The Beginning of Medicine in Brooklyn"

arouses our curiosity as to the beginnings of medicine in our own communities.

Nassau. One hundred men and women attended a combined meeting of the medical society and its auxiliary. The speaker was Dr. Richard Brickner, associate professor of neurology at Columbia Medical School. His subject was "Mental Hygiene and Its Use in a World at War." Our Nassau correspondent makes us wish we could have heard this talk which she thinks might well have been entitled "Propaganda and How to Combat It." The Nassau Chapter is cooperating with cancer and tuberculosis committees, is placing *Hygeia* in many schools, and is sending toys to foster homes through the Welfare Department.

Oneida. This chapter sponsored an interesting defense project when 158 men and women were typed as emergency potential blood donors under their auspices. These potential blood donors will only be called in case of major disaster.

Onondaga. The monthly meeting of this chapter was held at Nurses Recreation Hall at the Syracuse General Hospital on Tuesday evening, March 4. Mrs. Robert A. Pond, assisted by Mrs. Beverly Lapham, president and corresponding secretary, respectively, of the Visiting Nurse Association, explained the work of the visiting nurse and illustrated the talk with moving pictures. A dinner is being planned by the auxiliary on Tuesday, April 14, at 6:30 p.m. in the Hotel Syracuse Ballroom. The guest speaker will be Dr. W. W. Bauer, director of the Bureau of Health Education of the A.M.A. His subject will be "Health for Total War."

Schenectady. A delightful Christmas tea was given by this group in December at the home of Mrs. Albert Grusser. The January meeting was a luncheon and bridge held at the Hotel Van Curler. A committee was appointed to sell Defense Bonds among the medical profession. Defense Stamps are to be on sale at each meeting and were given as bridge prizes at the luncheon. The February meeting was held at Sunny View Hospital. Reports on medical legislation were made. Dr. James Blake of Glenridge spoke on "Medical Defense in Schenectady." On March 26-27 a Nutrition Exhibit will be held at the Hotel Van Curler, Schenectady.

"Christ was a perfect man, but Confucius had a better sense of humour."—*The Keys of the Kingdom*, A. J. Cronin (Little, Brown & Co.)

Definition of a jungle gentleman: "A monkey that doesn't monkey around with another monkey's monkey."—*Medical World*



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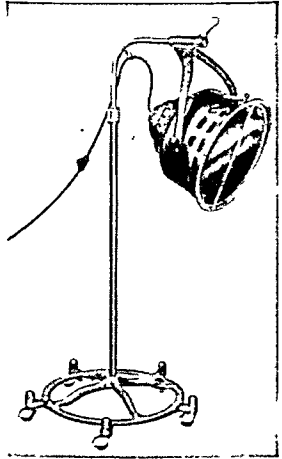
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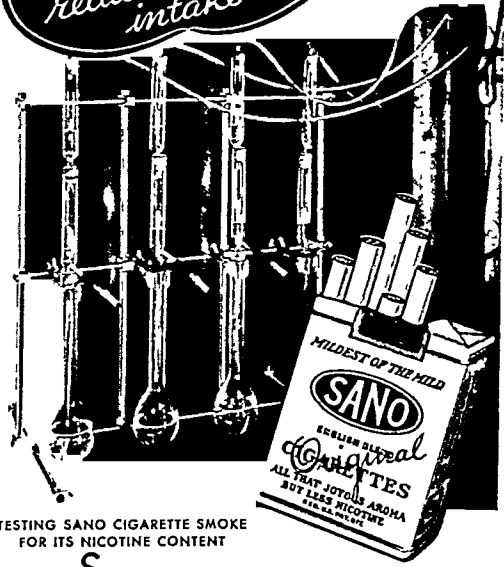
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Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N. Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and interest to our readers.

REVIEWED

Electrocardiography: Including an Atlas of Electrocardiograms. By Louis N. Katz, M.D. Quarto of 580 pages, illustrated. Philadelphia, Lea & Febiger, 1941. Cloth, \$10.

This is an exhaustive treatise on electrocardiography which covers every aspect of the field. It is illustrated by a large number of excellent electrocardiograms which are beautifully reproduced. The explanation accompanying each electrocardiogram is satisfactory. The general text deals with both the theory and practice of electrocardiography. It is a book for the expert rather than the beginner, since the latter might become somewhat confused by the mass of detail presented.

The author introduces a terminology in describing the various complexes and waves consisting mainly of letters—e.g., V, N, etc.—which he thinks facilitates the reading of the tracings. This is not the common method of description, and it seems to the reviewer that it adds to the difficulty of following the text, since the key has to be referred to constantly for a complete understanding of the subject matter.

The author states that if coronary insufficiency has been compensated, the record returns to normal and, if the record is stabilized short of this, there is a residue of coronary insufficiency. It seems doubtful, from a clinical standpoint, that this would be generally agreed upon, since many individuals in whom the record remains abnormal seem to be as well from a functional standpoint as those in whom a normal tracing is ultimately obtained. Indeed, some of the latter still have symptoms of coronary insufficiency.

There are some other minor points on which there might not be universal agreement. Nevertheless, there is no doubt that this is easily one of the best books written on the subject, and it can be highly recommended to those who wish to become familiar with all phases of electrocardiography.

J. HAMILTON CRAWFORD

Exercises in Electrocardiographic Interpretation. By Louis N. Katz, M.D. Quarto of 222 pages, illustrated. Philadelphia, Lea & Febiger, 1941. Cloth, \$5.00.

This work is a supplement to the author's book on electrocardiography. It is designed to give practice in reading electrocardiograms to those who have acquired familiarity with the theory of the subject. In each instance the electrocardiographic findings are correlated with the patient's clinical findings. As is the case in the companion volume, the electrocardiograms are excellent and well reproduced. The book fulfills the purpose for which it is designed in a satisfactory manner.

J. HAMILTON CRAWFORD

Papers of Wade Hampton Frost, M.D. A Contribution to Epidemiological Method. Edited by Kenneth F. Maxey, M.D. Octavo of 628

pages, illustrated. New York, The Commonwealth Fund, 1941. Cloth, \$3.00.

For one quarter of a century Dr. Frost labored unremittingly to develop those basic principles and methods on which the science of epidemiology rests today. By his work and teachings he has contributed greatly toward the establishment of many of the fundamental concepts that have been so instrumental in changing epidemiology into an analytic and productive science. It is most fitting, therefore, that the Commonwealth Fund should publish this book containing twenty of his more important papers.

The introductory preface describes the early life, education, and professional career of Wade Hampton Frost. In the following five sections of the book are grouped, under appropriate headings and explanatory introductions, the papers chosen from his writings as representative of his work and methods. In section 1 are his reports on a typhoid epidemic in Williamson, West Virginia; a milk-borne outbreak of septic sore throat in Baltimore; and certain of his epidemiologic studies on acute poliomyelitis. While all three evidence his masterly analysis of epidemiologic problems, the report on poliomyelitis particularly contributed to enlarge our knowledge concerning the incidence of clinically recognizable and abortive forms of the disease, its dissemination, and the problems of susceptibility and immunity.

The papers in section 2 concerning stream pollution and water purification served the progress of sanitary science by arousing public interest in the dangers of sewage pollution of surface streams and the necessity of surveying watersheds and plants for the purification and distribution of water.

The third section contains his investigations regarding the epidemiology of influenza and the associated respiratory diseases.

Among the articles in section 4 is one on epidemiologic methods which is notable as one of the clearest and most comprehensive descriptions of the philosophy underlying this science. Of the three other papers grouped here, two concern public health methods. They are both practical and constructive and yet idealistic.

The last section is devoted to his more recent publications on tuberculosis, its incidence and control. They are characteristically unique in their approach and logical in their deductions, and no doubt they will prove of great significance in the program of future control of this disease.

JOSEPH C. REGAN

Clinical Immunology, Biotherapy and Chemotherapy in the Diagnosis, Prevention and Treatment of Disease. By John A. Kolmer, M.D., and Louis Tuft, M.D. Octavo of 941 pages, illustrated. Philadelphia, W. B. Saunders Company, 1941. Cloth, \$10.

In the first part of the book the principles of
[Continued on page 730]

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[Continued from page 728]

infection, immunity, biotherapy, and chemotherapy are discussed in a clear and highly interesting manner. In the second part these principles are applied to the individual infections and allergic diseases. A detailed description of diagnostic and therapeutic procedures makes the book particularly valuable to the practitioner and clinician, but it will be read with interest also by bacteriologists and immunologists. The critical attitude of the authors raises this textbook above the level of a mere compilation.

U. FRIEDEMANN

Lymphatics, Lymph, and Lymphoid Tissue. Their Physiological and Clinical Significance. By Cecil K. Drinker, M.D., and Joseph M. Yoffey, M.D. Octavo of 406 pages, illustrated. Cambridge, Harvard University Press, 1941. Cloth, \$4.00.

This monograph represents an outstanding contribution to a field where such an authoritative exposition has long been needed. Clearly and concisely written, it should prove valuable as a source of information to those concerned with the practice of medicine as well as to the physiologist, biochemist, and anatomist. Although the title would appear to indicate a restricted discussion, the scope of the book is broad, including as it does a general survey of all factors—anatomic, physiologic, and chemical. Not only is the discussion of current factual matter well presented, but the indications for future investigations are emphasized.

No section of the book should be slighted, but the final chapter on practical considerations is especially significant to the medical reader.

G. B. RAY

Developmental Diagnosis. Normal and Abnormal Child Development. Clinical Methods and Practical Applications. By Arnold Gesell, M.D., and Catherine S. Amatruda, M.D. Octavo of 447 pages, illustrated. New York, Paul B. Hoeber, Inc., 1941. Cloth, \$6.50.

Dr. Gesell and his coworkers have spent years in the study of developmental examinations of infants and young children, and they have written extensively on the subject. This volume is a consummation of their past work.

The first chapter deals with the nature of behavior and of mental growth. In the following chapters illustrations of tests used in diagnosis and the proper integration of these tests into the various age levels are presented in a fascinating and basic manner.

The necessity of a thorough physical check-up, as well as the determination of the functional maturity of the nervous system, is particularly necessary in the infant and preschool child. It is at this early age that thoroughness of such examination is often neglected. Young children often enjoy the methods employed in making a developmental examination. You are putting yourself on an equal basis or on the same age level as the child. Thus, confidence is established and, when the more terrifying aspects of the physical examination take place—e.g., looking at the ear drums or throat—cooperation is attained.

Part 2 is concerned with the diagnosis of the abnormal child in terms of the previously described normal procedures. One chapter deals with child adoption; all physicians who are interested in this subject should read it.

In Part 3 the protection of early child development is discussed. The responsibility of the physician is grave. He not only must make a proper diagnosis but must be prepared to impart such a diagnosis. Hence, proper guidance must be the keynote in each individual situation, whether the child be normal or defective.

The vistas opened in this volume will add new fields of thought to the physician's ever increasing armamentarium of diagnostic methods.

THURMAN B. GIVAN

Diseases of the Respiratory Tract. By Jacob Segal, M.D. (Oxford Medical Outline Series.) Octavo of 172 pages. New York, Oxford University Press, 1941. Cloth, \$2.00.

Dr. Segal has accomplished the extraordinary feat of making an excellent compendium of the vast literature on diseases of the respiratory tract. His judgment in evaluating the space that each topic must command has been beyond cavi. It is rare to find this delicate task of balance and selection so admirably done.

As might be expected from the author of a standard work on tuberculosis, this field is expertly treated. However, no less can be said of other sections of this outline. As might be expected in any work of this general description, there will always be differences of opinion on questions of emphasis. For example, the reviewer would have wished for a more urgent warning against the use of morphine in bronchial asthma and a reiteration of the commonly accepted clinical observation that pulmonary embolism may be present without either symptoms or signs. To wait for classic signs is to delay diagnosis in many cases. However, these criticisms are minor indeed when the accuracy and soundness of the outline as a whole are considered.

MILTON PLOTZ

Standard Radiographic Positions. By Nancy Davies, M.S.R., and Ursel Isenburg, M.S.R. Octavo of 136 pages, illustrated. Baltimore, Williams & Wilkins Company, 1941. Cloth, \$2.00.

The necessity of standard radiographic technic has long been stressed by all radiologists worthy of the name. The authors have successfully endeavored to describe and illustrate these standard positions by plain, concise description and excellent illustrations, so that radiographers (x-ray technicians), by following directions, can produce and reproduce radiograms of such constancy that correct interpretation is made possible. As trained technicians they realize that none can be considered efficient without employing standard exposures, and to that end they have succeeded admirably.

A timely subject is the special chapter devoted to the localization of foreign bodies. A modification of the J. Mackenzie Davidson technic is described in full and, if followed carefully, it should prove highly satisfactory.

[Continued on page 732]

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In the *United States News*, David Lawrence, the editor, described this colossal job. "It was a mammoth task in planning and administration," Mr. Lawrence remarked. "The Association of American Railroads, acting for all the railroads, sent out orders and worked on a twenty-four hour basis, pooling locomotives and cars and fitting in here and there special trains irrespective of whether the load was enough for a train. It was important to

move the troops and get them to their destination, and the wires of the railroads were so crowded that at times all forms of communication from telephone to relayed messages through various channels were utilized.

"What makes the performance of the American railroads even more remarkable is that along with the troops traveled freight cars which bore their supplies and equipment. The soldiers went fully equipped—ready for action. To carry this equipment—tanks, guns, and ammunition—was a tremendous transportation job in itself.

"How was such a large number fed? The army carried its own food kitchens which were set up in baggage or freight cars. It took an immense amount of planning, but everything went off without a hitch. The troops were moved—some 600,000 of them—and they arrived at appointed places on a schedule that would have amazed Herr Hitler. For it is doubtful whether he has ever moved so many troops so fast as America did just before Christmas."

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[Continued from page 730]

This book is of great value to those young men and women who would become x-ray technicians in the present war, as well as to those physicians who would employ the x-ray in their general practice.

MILTON G. WASCH

Principles of Microbiology. By Francis E. Colien, M.S., and Ethel J. Odegard, R.N. Octavo of 444 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$3.00.

This is an excellent comprehensive work on microbiology intended for the nursing science. To quote from the preface: "The subject matter has been arranged . . . to meet the excellent recommendation of the Committee on Education of the National League of Nursing Education." The work is divided into seven parts. Part 1 discusses historical matters, microscope biology, cultivation, and methods of studying microorganisms; Part 2, destruction of organisms; Part 3, classification of microbiology and nursing; Part 4, infection and immunity; Part 5, pathogenic organisms; Part 6, microbiology in relation to water and milk; Part 7, an appendix with chapters on culture mediums, laboratory exercises and demonstrations, and a glossary.

The book is profusely and adequately illustrated and a satisfactory bibliography is presented. The book should find an important use as a textbook of microbiology for nurses.

MAX LEDERER

Pathology of the Oral Cavity. By Lester R. Cahn, D.D.S. Octavo of 240 pages, illustrated. Baltimore, Williams & Wilkins Company, 1941. Cloth, \$5.50.

In this work the author presents a concise résumé of the principles of inflammation with photomicrographs of blood changes, which should be of interest to the practitioner.

The chapter on Diseases of the Hard Structures of the Teeth contains nothing new. The discussion of periapical pathology is well worthwhile and shows many changes of surrounding tissue and apices from a new aspect.

Osteomyelitis and necrotic sequestrums can be definitely separated, particularly in cases that have been treated by deep roentgen therapy. Surgery in the oral cavity should be postponed for at least one year subsequent to the last treatment of roentgen therapy. Dr. Cahn stresses this point in the chapter on Tumors of the Jaw Bones.

The cross section of tumors of the oral cavity covers a field with which the general practitioner should acquaint himself more thoroughly. It is well presented, particularly the case history of the adamantinoma. This type of tumor is formed from epithelium of the enamel organ type and generally forms during the age of tooth formation. It is more prevalent in women than in men, particularly of the Negro race, and is not considered malignant but, as Dr. Cahn states, recurs frequently after operation.

There is an interesting chapter on oral manifestation due to lack of proper vitamin intake. This being a comparatively new field and an important one, it should be received with in-

terest. Many of the forms of stomatitis are attributable to avitaminosis.

It was an interesting privilege to review Dr. Cahn's book.

G. B. JOHNSON

Obstetrics. By Hervey C. Williamson, M.D., and George Schaefer, M.D. (Oxford Medical Outline Series.) Octavo of 113 pages. New York, Oxford University Press, 1941. Cloth, \$2.00.

The book is a brief outline of the fundamental principles of obstetrics and their practical application. The symptoms, physical signs, differential diagnosis, and treatment of obstetric complications are clearly written. Important new advances in chemotherapy and x-ray are included. It should be a valuable adjunct in the study of obstetrics for medical students.

ALEXANDER H. ROSENTHAL

The New International Clinics. Original Contributions; Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume III, New Series Four. (September.) Octavo of 300 pages, illustrated. Philadelphia, J. B. Lippincott Company, 1941. Cloth, \$3.00.

The outstanding feature of this issue is Cantarow's usual thorough and instructive review of recent advances in clinical biochemistry. More than a hundred pages are devoted to a series of clinics from Washington University, St. Louis. Barr's paper on obesity and Findley's paper on acidosis in hypertension are conspicuously thought-provoking. The latter's article brings to mind the important contribution of Marzullo on acidosis in uremia. It is not impossible that some common factor in pathogenesis may be found.

MILTON PLOTZ

The 1941 Year Book of Public Health. Edited by J. C. Geiger, M.D. Duodecimo of 544 pages. Chicago, Year Book Publishers, 1941. Cloth, \$3.00.

This annual review of public health matters has many chapters that concern the private physician in his practice. Of particular interest are the discussions on communicable diseases. The comments on influenza, common colds, the exanthemas, and the like are presented in a terse, time-saving manner. Tuberculosis, poliomyelitis, and the venereal diseases are treated more fully. Other chapters on health education, industrial hygiene and mental hygiene present information of everyday interest to the general practitioner.

ALFRED E. SHIPLEY

Necropsy. A Guide for Students of Anatomic Pathology. By Béla Halpert, M.D. Duodecimo of 75 pages. St. Louis, C. V. Mosby Company, 1941. Cloth, \$1.50.

The text presents a detailed description of how an autopsy should be performed. The various organs and their relation to adjoining structures are examined in situ. The method for their removal and examination of each individual organ is fully described. It is a valuable guide to the important points to be observed during a necropsy.

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LIFE IN BOMB SHELTERS

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1942

ANNUAL MEETING

of the

Medical Society of
the State of
New York

Waldorf-Astoria
New York City

April 27, 28, 29, 30

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1. Is a well-rounded diet the best way to insure a proper intake of vitamins?
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3. Could any conceivable harm result from taking them on your own?
4. How about their effect on a hangover?

To physicians, generally, both answers and questions must appear rather elementary. But not so to the laymen who more often than not get the wrong answers the wrong way.

A housewife, writing for the *Junior League* magazine, interviewed five distinguished medical men to get the right answers to the riddle of vitamins the right way. She asked the same four questions of each of the authorities and, strangely to her it appears, obtained in general the same opinion from them all. According to the lady, "despite the difference in their work, age, personality and methods of expressing themselves," all said essentially the same thing.

All agreed that there is undeniably an overemphasis on vitamins . . . that it isn't a good idea to take additional vitamins without competent advice . . . and that a well-balanced meal is the best means to accomplish the common objective.

"Don't waste your money" seemed to be the general admonition. "Don't play with vitamins," cautioned one physician. While another—"wished that all the excess synthetic vitamins consumed by those who didn't need them could be sent somewhere where they would do real good in combating deficiencies."

All five medical men interviewed assured this woman that packaged vitamins had their place and their functions—and a valuable one at that—but were inclined to

be widely mis-used and so,

the lady learned that a vitamin B pill will have no effect on that morning after feeling, although employed in some extent in treating certain cases of chronic alcoholism.

The result of the interviews may be summed up in the woman's own reaction to the answers she received. "It certainly is understandable," she wrote, "perhaps it is inevitable, that with the build-up and publicity attendant upon the real service vitamins have done in combating deficiencies, they (the commercializers) should have capitalized on it, and tapped the great extra market that exists in fad-loving America, and that the widespread use of commercial vitamins should have gotten off to such a flying start. Rather than get on the bandwagon, I would prefer to accept the composite opinion of these doctors who have no commercial axe to grind, and whose whole lives are concerned with the problem of making people healthier."

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NEW YORK STATE JOURNAL OF MEDICINE

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Editorial

Last Call for the Annual Meeting

In the April 1 issue we called your attention editorially to some of the important features of the forthcoming one hundred and thirty-sixth annual meeting. You will note from the entire program, published in that issue, that the predominant emphasis is upon military medicine, but that the needs of civilian care have not been overlooked. This year, no physician in the state of New York who can possibly attend should fail to seize the opportunity, both as a duty to himself and as a benefit to his patients.

Grave changes in the pattern of life are in the making. By the time you read this, all male citizens between the ages of 20 and 45 will have registered, and by the time you arrive at the annual meeting, April 27-30, in New York City, all citizens up to the age of 65 will have registered under Selective Service (see notice on page 821), and, we hope, will have filled out their new registration blanks for the Procurement and Assignment Service.

It will, therefore, be with clear consciences (income tax returns for this year being a matter of history) and with lighter hearts and pocketbooks that the profession of the Empire State will gather

at the Waldorf-Astoria Hotel, blackout or no blackout.

The banquet on the evening of April 28 will be noteworthy. Under the suave and skillful toastmastership of Dr. Chas. Gordon Heyd, former president of the A.M.A. and of the Medical Society of the State of New York, you will hear addresses by Dr. Frank H. Lahey, president of the A.M.A., and many other distinguished guests. Acceptances by some must necessarily be tentative because of their war duties, but it seems reasonably certain that Major General Irving J. Phillipson, commanding general, Second Corps Area; Brigadier General Lewis B. Hershey, national director of Selective Service; and Major General James C. Magee, surgeon general of the U. S. Army, will speak.

Our own president, Colonel Samuel J. Kopetzky, medical director, Selective Service, New York City, and chairman of the New York State Committee of the Procurement and Assignment Service, will give his presidential address.

The invocation will be spoken by Rabbi Leo Jung, and there will be music by the Doctors' Orchestra. Do not fail to secure your banquet tickets early (see page 760).

This War Is Different

Nearly all of us are old enough to remember the first World War and can realize how different this one is, not only in a technical sense but also in its different effect upon the civilian population. Remember that while in the last war we trained an immense army and sent half of it abroad, we sent, with few exceptions, only the men and light equipment—no artillery, no tanks, no airplanes. And the men and light equipment were sent for the most part in British ships. This meant that on the production side we did but little. There were few priorities, little or no turning of industries completely over to war needs. Business was as usual, and more than usual; we had a wartime boom. People had lots of money and there were lots of things to buy—at boom prices, of course.

The cost of the former war was largely met by Liberty Loans, as they were called. These loans, four of them in all, were launched in big drives, with teams and quotas and mass meetings—intensive campaigns lasting but a short time. Great enthusiasm was thus created, and people bought bonds in large amounts during a campaign. They drew their money from savings banks or depleted their drawing accounts. Many, in the fever of the moment, bought more than they could manage to pay for, and had to sell again in a short time, taking a loss and damaging the credit of the country.

In this war we are also raising and equipping immense armies, but we are doing much more. We are making planes and guns for them, tanks, and all sorts of motorized equipment. We are building for ourselves a two-ocean navy, quantities of transports, and cargo vessels. We are doing even more; we are making these things for our allies as well, and we are proud to be called the "arsenal of the democracies."

This tremendous effort has necessitated the transformation of half our industrial productivity into war work, and this in turn means that only half as many

things that we usually buy are being manufactured for us. Add to this some classes of goods for the production of which raw materials (as rubber) can no longer be obtained, and we have the picture of a famine of goods in the midst of plenitude of industrial activity.

There is a great difference, also, in the financing of this war. There is much heavier taxation; and the bond issues, instead of being substantially alike but issued at different, specified times, are essentially unlike and are issued continuously and concurrently. The object of this new method is to persuade us to invest as we can, each week or month, from our current receipts. Taking our savings from savings banks for this purpose *does not help*, for the savings banks must sell government securities in order to pay us our money.

There are great advantages in this method of purchasing bonds regularly, and in as great amounts as our earnings will permit. These advantages accrue both to the nation and to ourselves. Our country is provided with the steady revenue it needs for its war production, and the danger of a runaway inflation will be avoided—an inflation which would not only interfere with the financing of the war, but would work a great hardship on all of us. Such an inflation will yet come if too many people try to buy things with their money, in competition with one another and with the government, when there are not enough things to go around.

Among the advantages of bond purchases to ourselves, individually, is, first, the deep satisfaction that comes from self-discipline and self-sacrifice. Ours is the satisfaction of knowing that we are doing our part to the best of our ability, that we are making this sacrifice at the same time that men in the fighting forces are making their great sacrifice.

The second advantage is in the sphere of prudence, or foresight. We do not know what will happen after the war is

over and the victory won, but the predictions are that there will be bad times until the world readjusts to peacetime production again. Now is the time, when money is plentiful, to lay by something for this future depression. As we buy the bonds regularly now, they will mature regularly then. And, if we do not voluntarily make the sacrifice now, when it will help our country, we shall have to make it then—with no advantage to anyone, and least of all to ourselves.

The third advantage is a matter of plain horse sense. There are many things that we ordinarily buy from time to time that

are not available now. We shall need them when we can get them. There are of course many things that we can get now, but the price is too high and quality none too sure, because of priorities and deficiencies of materials. We shall be wiser to wait, if we possibly can, until the war is over, to make these purchases.

And if we now put our money into savings bonds instead, then, when the war is over and all these things again become available at normal prices and in standard quality, we shall have the means to buy them.

New Physical Standards for the Army

For the information and guidance of our members who will be asked about the Army's new physical standards of acceptance for *limited military duty for officers*, we republish the following regulations, detailed in an order issued by the surgeon general of the Army, as published in the *J.A.M.A.* for March 28:

A man who has lost one leg, provided it is below the junction of the middle and lower thirds of the thigh and has been replaced with a satisfactory artificial one, may now be considered acceptable for limited service as an officer of the supply arms and services of the Army.

A wide variety of physical defects which heretofore have stood as a barrier to service in the Army is listed in the order as being considered acceptable for limited service with waiver, and in addition there are enumerated a number of conditions on which waiver may be accepted for general military service.

The order is divided into three sections. The first concerns those defects considered acceptable for limited service. These include:

Overweight to 25 per cent above average weight for age and height, and underweight to 15 per cent below ideal weight, provided chest x-ray examination is negative for disease changes of the lungs and other chronic disease is carefully excluded.

Vision 20/400 in each eye corrected with glasses in possession of the examinee to 20/20

in one eye and to at least 20/40 in the other, provided no organic disease of either eye exists.

Blindness, or vision below 20/400, in one eye, with vision 20/100 corrected with glasses in possession of the examinee to 20/20 in the other, provided there is no organic disease in the better eye and no history of cataract or other disease in the more defective eye which might be expected to involve the better one, and provided that, in case of the absence of an eye, the individual is fitted with a satisfactory artificial one.

Complete color blindness.

Hearing 5/20 in each ear for low conversational voice, or complete deafness in one ear with hearing 10/20 or better in the other, provided the defect is not due to active inflammatory disease and is stationary in character.

Loss of one hand, forearm, or lower extremity, provided the lost member is replaced with a satisfactory artificial one.

Flatfoot, excessive curvature of the sole of the foot, or a clubfoot in which the individual walks on the toes due to elevation of the heel by contraction of the Achilles tendon, provided the condition is asymptomatic and does not interfere with normal locomotion.

Joints fixed or limited in motion, provided the condition is the result of injury and is non-symptomatic.

History of gastric or duodenal ulcer, provided there is a trustworthy history of freedom from activity during the preceding five years and provided an x-ray film of the gastrointestinal tract at the time of examination is negative.

The second section of the order concerns conditions considered unacceptable for any service, and include:

History of malignant disease within the preceding five years; syphilis, except when ade-

quately treated; instability of the major joints; diabetes of any degree; history of any psychosis.

The third section concerns those conditions which may be recommended for general military service with waiver. They include:

Confirmed positive serologic tests for syphilis with no clinical evidence of the disease, with reliable histories of treatment for the disease, and provided that a negative spinal fluid since infection and treatment has been reported from a trustworthy source.

Overweight to 20 per cent above average weight for age and height, and underweight to 12.5 per cent below ideal weight, provided x-ray of the chest is negative for tuberculosis and other chronic disease is carefully excluded.

Insufficient incisor or masticating teeth, provided the mouth is free from extensive infectious processes and satisfactory dentures are worn.

Let no man feel that he will not be able to play a useful part in this, our first total conflict. There will be a place for him somewhere.

The New England Journal of Medicine

In a letter to the *New York Times* of March 25, 1942, Dr. Henry R. Viets of Boston, quoting an editorial in that paper, of March 22, entitled "A Yale Genealogy," says:

It would be interesting to trace the lives and usually early deaths of magazines that have taken the name of New England. . . . One stalwart in that line is the *New England Journal of Medicine*, the first journal of medicine in this country, if not in the world, which has continued, despite changes in form and of name, in uninterrupted existence since 1812. The name "New England" was held from 1812 to 1828, when the magazine became the *Boston Medical and Surgical Journal*. In 1928 the name again became *New England Journal of Medicine*.

We are beholden to Dr. Viets for this interesting information about this stalwart publication. Always an appreciative admirer of the contents of the *New England Journal of Medicine*, the NEW YORK STATE JOURNAL OF MEDICINE now finds itself viewing with reverence this additional, and until now to us unknown,

attribute of great age of our northerly sister. We are content to have the respectable, even genteel, name of New England carried forward from generation to generation by such a worthy vessel. The episode of the Boston wild oats, from 1828 to 1928, has already been forgiven, and will soon be forgotten. In another century, not one of us now living will remember it.

In the light of this new learning from the pen of Dr. Henry Viets, historian, we shall henceforth turn the pages of our copies of the *New England Journal of Medicine* gently, with great delicacy. And as they rustle under our disturbing touch, they will remind us of the glories of her youth, the crinolines of Dolly Madison, the exploits of Commodore Perry and Captain Lawrence, and of the *Constitution* and the *Guerriere*, *Old Ironsides*, Tecumseh's Conspiracy, and Har- rison at Tippecanoe.

Reservations for the Annual Banquet

. are now being made. Requests should be sent to Alfred M. Hellman, M.D., chairman, Banquet Committee, Medical Society of the State of New York, 292 Madison Avenue, New York City. Tickets are \$5.00, plus 14 cents tax. Checks should be made out to the Medical Society of the State of New York.

The banquet will be held in the Waldorf-Astoria Hotel on Tuesday, April 28, at 7:00 p.m.—a *must* occasion for everybody.

THE CONSERVATION OF RENAL TISSUE

JOHN E. HESLIN, M.D., Albany, New York

THE presentation of a paper upon this subject before a group interested in urology should be prefaced with an apology, for urology itself was founded upon the postulate of conservation of renal tissue. In applying the principles of urology, we unconsciously aim at such conservation.

However, with the advent of chemotherapy and its miraculous relief of symptoms, even in the presence of calculi and obstruction, the danger of neglected pathology increases, and we must remind ourselves and others that these potential destroyers of kidney function must be recognized and relieved.

Frank Hinman,¹ in discussing urinary tract infections and the use of modern urinary antiseptics, makes the following statement, which seems apropos in the present discussion:

"The dangers of procrastination grow greater and greater as urinary antiseptics grow better and better.

"Why all the excitement when the ingestion of a few pills clears the urine. . . . The wise physician, knowing that most urinary infections are secondary, will suspect other trouble even when pills are successful. He will not be satisfied until all the findings, gradually collected step by step by means of the preceding studies, demonstrate suspected pathologic changes or prove that his suspicions were false."

The wide use of intravenous urography makes the recognition of many lesions much more simple and opens up a wide field of usefulness in this subject.

To conserve renal tissue implies conservation of renal function and, although we are well endowed with this tissue, the newer physiology of the kidney and the possible relation of unilateral renal disease to hypertension and other diseases reveal to us that we may urgently need this reserve in later years.

As evidence of the possibilities of the result of kidney damage, the *Cumulative Index of the American Medical Association* for 1940 lists 158 references under "Physiology of the Kidney" with all types of experimental work. We are apt to consider the filtration property of the kidney as its greatest function, but a review of this list and the known functions of

the kidney impress one with the importance of these vital organs.

We are dealing with a finely adjusted mechanism and with its reserve and adaptability; it is apparently able to cope with great emergencies and long-continued embarrassment. We learn each day of its great restorative powers, but we do not yet know the part an even slightly lowered function may be playing in diseased states.

Since we are told that slightly diminished function in one kidney may be a clue to the underlying cause of hypertension, is it too much to suspect that further studies will reveal a close relationship of reduced function to now little understood diseases? Only yesterday, we were referring cases of hypertension from our offices to internists and, today, they are referring them back to us. Who can say but what tomorrow our field of usefulness in urology may be further widened in the investigation of obscure diseases?

The physiology of the kidney has been a point of discussion for years and, today, there is no general agreement among physiologists as to the manner in which it functions. Time does not permit a full review of the work of Bellini, Ludwig, Bowman, and Heindenbain or that of Cushny, who in 1917 advanced his "modern theory" of renal function. He maintained that the urine, filtered through the glomerulus, contained everything carried by the blood except protein. Upon reaching the tubule, the selective and absorption properties allowed necessary or "threshold" substances to be absorbed, while material such as ureas and other end products, not needed, or "nonthreshold" substances were excreted.

A. N. Richards² and his colleagues at the University of Pennsylvania have proved since that time the existence of glomerular filtration and tubular absorption.

The kidney, then, not only filters from the blood stream substances not needed but must protect the body against loss of substances necessary for its maintenance, such as water, inorganic bases, and diffusible foodstuffs.

Lowsley and Kirwin³ quote Richards' summation of the processes of filtration, reabsorption, and secretion as follows:

"Evidence. . . seems not only to justify but to necessitate belief that the first function of the kidney is to separate a filtrate from blood

¹Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 20, 1941.

quately treated; instability of the major joints; diabetes of any degree; history of any psychosis.

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prevention by knowledge of its possible development; its early recognition and proper treatment not only conserves renal tissue but may act as a prophylactic measure in hypertensive disease.

Infection more marked in the pelvis produces its destructive effects through obstruction, resulting dilation and poor drainage, or by primary obstructive lesions. Braasch is credited as the first to point out that dilation of the pelvis and calices can take place as a result of inflammation in the absence of obstruction. Compression atrophy of the parenchyma results; there is progressive loss of vital tissue and continued infection or stone formation, frequently leading to total loss of the organ.

The ureter may be the seat of changes following infection or stone and play a leading role in pathologic change. Instrumental dilatation following removal of a long-standing impacted ureteral stone may well be an important prophylactic measure.

To be sure, all cases of infection of the upper part of the urinary tract do not progress in this manner but, if we are to protect our patients' welfare, we must approach infection with these changes in mind and continue, in many cases, not only our therapy, our instrumental and our operative procedures, but by frequent urographic and bacteriologic studies note the physical and bacterial status of the upper part of the urinary tract.

Renal Calculi.—Although we see an occasional case of renal stone going on for years without symptoms or changes in the kidney, it is extremely rare. The presence of stone jeopardizes kidney parenchyma by production of obstruction, infection, and multiplicity.

Obstruction and changes in a calix harboring a stone is of utmost importance in the medical or surgical treatment. It is difficult to completely eradicate associated infection and further stone formation of fine sandlike particles making their complete removal impossible. The excision of a calix, as suggested by Twinum,⁴ is a most conservative procedure, and possible resection of the entire pole when indicated would be a more conservative procedure eventually than simple pyelolithotomy or nephrolithotomy.

The free stone in the pelvis is almost certain to cause symptoms and, as it occludes the ureteropelvic junction, increasing obstruction, with dilatation of the calices and infection, makes later nephrectomy a necessity.

In this type of case, secondary changes at

the ureteropelvic junction may have advanced to a point where simple removal of the stone is not enough, the remaining obstruction contributing to further dilation, residual infection, and recurrent stone formation. Plastic procedures to prevent this serious end result should be carried out more often than at the present time. Any series of cases of stone recurrence will show that in a high percentage of cases nephrectomy is carried out at the time of the second operation.

Because of this great loss of kidney tissue in stone recurrence, everything must be done for its prevention. Not only should we carry out the regimen of stone analysis, regulation of the urine pH by diet or medication, correction of a vitamin deficiency, removal of infection, but at the time of operation we should make certain that we have left no small fragments and have carried out all necessary surgical procedures to insure normal functioning of kidney drainage. These surgical procedures may require a plastic procedure or possibly a simple nephropexy.

The statistics of many clinics show a reduction in the percentage of recurrence of stone from 40 to 50 per cent to under 5 per cent—a striking example of urology's contribution to renal conservation.

Because of malposition or production of obstruction, anomalies of the upper part of the urinary tract are frequently proved to be the primary cause of destructive urologic lesions in children and adults. Their discovery warrants surgical correction, or at least observation, to control the progress of kidney damage. Intravenous urography here is of great value, and this investigation of all pyurias in children not responding to medication will reveal a large number of these anomalies.

Hydronephrosis due to aberrant vessels is an excellent example of the value of early diagnosis where the ligation of a vessel or a plastic operation upon the pelvis where the vessel cannot be sacrificed will save a kidney.

The horseshoe kidney will usually become infected with development of stone formation and, upon discovery, serious consideration should be given its correction by symphysiotomy and nephropexy.

Improved surgical procedures have made it possible to perform heminephrectomy when one portion of a double kidney is involved, thus saving the remaining portion for a possibly much-needed service later.

Priestly and others have advocated the removal of large branched calculi. We all can

in volume so enormous as to contain all the waste products of metabolism and the unneeded salts and water. Necessary as this function is, were it uncorrected death from dehydration and loss of bases would inevitably and promptly ensue.

"Corrective processes of reabsorption by which escape of water, salts, and diffusible nutrients essential for survival is prevented are distributed among the different segments of the tubules. These are the processes which are finely adjusted to serve the varying excretory requirements of the body as a whole. By chemical rather than by nervous messages, tubule cells are informed of small changes in the composition of the blood; by mechanisms, as yet beyond description, their response is so discriminately effective that the narrow optional ranges of its variations is preserved.

"Tubule cells also secrete. The demonstration of this capacity in the mammalian kidney is as yet limited largely to the excretion of substances which are not normal products of metabolism or constituents of the normal bladder. Its mechanism is wholly obscure. It may be that this capacity is more important than present knowledge indicates. If so, revisions of current belief will be necessary."

The protection or conservation of renal tissue from a strictly medical standpoint has to do with the nephritides and changes associated with arteriosclerotic disease. The causes of these conditions are little understood; hence, measures to prevent are more difficult to outline. They are most important, but the basis of this paper is a discussion of the renal damage brought about by urologic conditions. Practically all urologic disease, directly or indirectly, influences kidney function.

Urethral strictures are a frequent cause of secondary changes in the urethra, the bladder, ureters, pelves, calices, and parenchyma. Strictures of small caliber are probably never cured and must have periodic dilatation through the patient's life to prevent damage of the upper part of the urinary tract. With the use of the newer drugs in the treatment of gonorrhea in the male, we are seeing a fewer number of cases of urethral stricture. This does not mean that they do not occur, although my impression is that their frequency is greatly lessened. It is doubtful if many cases of gonorrheal infection are now carefully checked for stricture or prostatitis. Let us hope that these drugs, so widely used and so efficient, will not thus aid in residual local

pathology and more serious secondary complications. More important, possibly, is the well-developed urethral stricture brought to our attention by the persistent mucoid discharge. These so often respond to modern internal medication that the underlying condition is never discovered. It is in cases of infection with underlying pathology where chemotherapy may prove to be an accomplice in the neglect of this pathology.

Prostatic surgery was one of the earliest procedures to conserve renal tissue. The recognition of the fact that renal damage, resulting from residual urine, accounted for the high mortality in this type of surgery gave urologic surgery its first great advance. With the advent of transurethral resection, with its lessened risk and economic drain, we are seeing these patients at an earlier stage before the upper part of the urinary tract has undergone change from long-standing residual urine.

The general practitioner who sees these patients in the early prostatic age must consider the early obstructive case with slight symptoms but definite residual urine and refer him before these changes have taken place.

With the greatly reduced morbidity and mortality in all types of prostatic operations, we owe to these men who place their future health in our hands an opportunity to avail themselves of procedures to insure their health and comfort in later years. When marked symptoms with infection and retention have taken place, not only is the risk of operation greater but the end result, although giving a satisfactory functional result, cannot always remedy the badly damaged kidneys.

Urinary tract infection is probably the most frequent disease affecting these organs. Acute infections are of less importance in the subject under discussion, although acute pyelonephritis and carbuncle may be destructive. Associated obstructive lesions and the development of secondary changes along with chronicity make it urgent that procedures—prophylactic and curative, both medical and surgical—be carried out completely to prevent destructive changes.

Chronic infection of the kidney may have changes more marked in the parenchyma or in the pelvis, and their mode of destruction differs. When the parenchyma is involved, the changes may be similar to those of chronic nephritis. Fibrosis may be marked with secondary atrophy and great loss of renal parenchyma. This phase of renal infection—chronic pyelonephritis—may be associated with the production of hypertension and its

relationship of long-standing chronic infection of the kidney with some cases of hypertension.

Many patients with chronic urinary infections are treated without thorough investigation, and only when serious damage has resulted do they seek the advice of the urologist. On the other hand, many urologists will permit a partial ureteropelvic obstruction to go untreated until the kidney has been destroyed beyond saving. It is not uncommon to see a patient with symptoms referable to the genital tract treated for many months or even years, when the cause of his continued genital infection was a unilateral infected kidney.

Prostatism in its early stages is not difficult to correct by operation and the resulting conservation of renal tissue makes it a wise procedure. Yet, urologists often advise patients to "wait" if their "symptoms" are not severe. Excretory urograms often show early evidence of delayed emptying of the kidneys in prostatism; yet, either such x-rays are misinterpreted or the urologist may unwisely wait for gross evidence of renal damage before surgical intervention is considered. It is my impression that many of the public wish us to protect their health rather than wait until their conditions become serious.

It is a simple surgical procedure to remove a destroyed kidney. It requires far greater intelligence to have a thorough conception of the origin and progression of a disease and the ability to diagnose such a disease early, remove the cause, and prevent the kidney from being destroyed. We are rightly to be considered inadequate urologists if we are unable to diagnose disease of the urogenital tract early, anticipate its progression, and institute active treatment with an aim toward preventing progressive destruction.

Dr. F. J. Parmenter, *Buffalo, New York*—Dr. Heslin is to be commended for calling our attention to the great importance of conserving renal tissue. It is an old story which the urologists have been preaching for years, and cannot be repeated too often.

Dr. Heslin stresses the importance of not allowing the physician to be lulled into a false sense of security by the not infrequently spectacular results of our newer antiseptics that may temporarily relieve the patient but not remove the underlying pathology that continues its insidious work of destruction.

The trend of modern urology is the conservation of renal tissue, which is well illustrated by the many forms of therapy which improved methods of diagnosis have placed in the hands of the urologists. As is well known, stasis causes back pressure and infection, which are the two combinations that are responsible for the damage in the vast majority of instances. To overcome them, early diagnosis with adequate drainage, removal of the causative pathology, to-

gether with the elimination of the infection, are all-important.

Hemholtz in a recent address pointed out the necessity of proving by culture, at least four days after stopping antiseptic therapy, that infection has been eradicated, instead of relying upon a clear urine with absence of pus cells.

Subacute infections and toxic products from remote foci are responsible in my opinion for many of the late renal changes grouped under the term "Bright's disease." In not a few patients a history of recurring attacks of pyelonephritis, perhaps dating from childhood or pregnancy, can be found by taking a careful history. This, with the presence of bacteria in the urine and the other renal changes found at the examination, makes it only too clear that infection is still present and is the causative factor.

The ureteral catheter has proved to be most helpful in draining an infected kidney if it can be passed above the obstruction, thus giving the kidney a chance to recover and permit some form of surgery short of nephrectomy to be carried out as an elective procedure when the patient has recovered from the acute sepsis.

The following patient is an illustration: a woman, aged 42, entered the hospital in a septic condition with a history of a sudden onset of severe pain in the left lower abdominal quadrant. Examination showed a mass in the pelvis which was considered an ectopic pregnancy. She was promptly operated on, but no pathology was found. A vital urinalysis was omitted. Her chills and fever continued; the urine showed some pus; an x-ray showed a shadow in the left ureter suggesting calculus. The ureteral catheter encountered an obstruction that when overcome drained out 3 to 4 ounces of thick pus.

Catheter drainage for ten days resulted in complete relief of symptoms, so that an elective pyelolithotomy, resulting in complete recovery, could be carried out.

Anomalies of the urinary tract are most important and can now be recognized in infancy and childhood. Some of these, unless diagnosed and relieved, result in early death or in chronic invalidism.

Many infants and young children are treated for digestive disturbances, malnutrition, or as difficult feeding problems, when the real cause is failure of kidney elimination from lesions in the kidney or kidneys or obstructive conditions in the lower part of the urinary tract. Infection is often present, and it would seem unnecessary to stress the importance of a routine urinalysis were it not still too often omitted. In addition, the mother may notice that the child is continuously wet or voids with great difficulty and evident pain and that the stream is thin and dribbling. A careful physical examination may show a mass over the kidney or an overdistended bladder.

This is well illustrated in the following case. A girl, aged 10½, presented the following symp-

recall cases placed upon observation, in years gone by, awaiting the development of further destruction and nephrectomy. With our knowledge of the great restorative powers of these kidneys and with improved technic and antiseptics along with the increased use of nephrostomy drainage, many of these cases can be given good functioning kidneys. The use of the nephrostomy drainage has played an important part in our ability not only to save kidneys formerly subjected to nephrectomy but also has made the convalescence of most operative renal surgery much less stormy.

We have used for several years a T tube, similar to the tube used in gallbladder surgery, to drain the kidney and ureter following removal of stones from the upper ureter. In the presence of dilatation and infection of the ureter and pelvis above, its use has given much satisfaction. Its use does not appear to prolong drainage from the sinus; only an occasional case will require the passage of a catheter to the kidney to secure closure, but this dilatation of the ureter at the site of the incision may prevent later contracture at that point.

McKenna and Kiefer⁵ in their article on conservative renal surgery in the *Journal of Urology* stress its importance and urge that conservation be more frequently used—not as a necessary operation in poor function of the opposite kidney but as an elective operation. They point out, rightly, the necessity of most careful study preliminary to, and at, the operating table so that a conservative operation may not prove eventually to be a radical operation. Nephrectomy is often the more conservative procedure. However, the literature contains an increasing number of cases with excellent results.

In the surgery of hydronephrosis, plastic operative procedures have contributed much in restoring badly damaged kidneys. Innumerable types of operations upon the pelvis and upper ureter have been devised with Trendelenburg, Ferger, von Lichtenberg, Young, Hinman, Foley,⁶ and many others, making valuable contributions. Not only the indication for plastic operation but the type of operation best suited for the case at hand will frequently require a nicety of judgment not called for in other urologic procedures.

Trauma to the kidney, if not resulting in immediate nephrectomy, may later produce a functionless kidney from obstruction or stone formation. Two measures to prevent this latter result may well be considered. Many writers now believe that exploration of

the kidney, with removal of blood clot and repair, is indicated in a large number of cases and that a better functioning kidney will result. If exploration is not deemed necessary or if the patient's condition will not permit, then later urographic studies at intervals are definitely indicated. Early stone formation and obstructive changes will then allow the correction and the saving of the kidney.

Though this is an elementary review of the physiology of the kidney, factors endangering function, and prophylactic and curative measures to lessen that danger, it is hoped that it will in at least some small way aid in the further promotion of one of urology's primary objectives—the conservation of renal tissue.

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Discussion

Dr. Roy B. Henline, *New York City*—I have been extremely impressed by Dr. Heslin's interesting paper.

In the past, most urologists have contented themselves with methods of diagnosing advanced urologic disease and perfecting methods for its correction. It is now apparent that their thoughts are turning to the cause and recognition of early stages of urogenital disease and, realizing its inevitable progression with continued destruction of vital structures, they are attempting by early corrective measures to prevent such progressive destruction.

This attitude seems timely and constructive. Although we may be familiar with the inception of disease, yet, far too often, we neglect these early stages unless severe symptoms demand prompt and continued attention. As symptoms disappear or become less acute, we often "wait" to see what develops and, too often, later find gross destructive pathology that might have been prevented.

It seems to me that the time has come to devote our efforts toward the recognition of early pathologic lesions in the urogenital tract and to devise and practice methods of preventing their progression. To wait until gross pathologic changes have occurred when destruction prevents conservative treatment "is not in keeping with the thoughts of the time in preventive medicine." As pointed out by Dr. Heslin, this has been forced upon us by the discovery of the

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BURTON T. SIMPSON, M.D., ALPHONSE A. THIBAudeau, M.B., and EUGENE M. BURKE, B.S., Buffalo, New York

ADENOCARCINOMA of the cervix is a relatively infrequent growth. From 4 to 7 per cent of all malignancies arising in the cervix are placed in this group by various investigators. A survey of the patients presenting themselves at the State Institute for treatment of cervical cancer shows one adenocarcinoma for each twenty-six squamous-cell carcinomas.

Of a total of 93 patients with cervical adenocarcinoma, 63 were selected for study, while 30 were eliminated because the histologic sections were not available for study, because the patient had not received treatment, or because sufficient time had not elapsed for a five-year follow-up.

The clinical symptoms of adenocarcinoma of the cervix correspond closely with those found in squamous-cell carcinomas in this location. The first symptom is usually a watery discharge, which, as the invading tumor erodes small vessels, becomes bloody. Pain, as is common in most cases of malignancy, is a later feature. The gross appearance of the tumor is not indicative of the type of lesion, since either a squamous-cell carcinoma or an adenocarcinoma may present the same clinical picture. When, however, the mucous membrane of the cervix is intact and a growth is found arising from the cervical canal, the natural assumption would be that the growth is an adenocarcinoma. If the neoplasm is of the infiltrating type, it may give little evidence of change in the external surface until extensive invasion of the cervical stroma has taken place. In a tumor of the papillary type, on the other hand, the growth is much more apt to be recognized early, since the outward projections present a definite clinical picture. Definite histologic classification is, as a rule, determined only by biopsy. A careful study of biopsy material is essential, for often a highly anaplastic adenocarcinoma may give a histologic picture not unlike a squamous-cell carcinoma.

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rather than with the age incidence of squamous-cell carcinoma of the cervix and occurs, as a rule, later in life. The youngest patient in the series here reported was 29, while the oldest was 73. Ten per cent of the group were under 40 when admitted for treatment. Sixteen were between 40 and 50, and 19 were in the 50- to 60-year age group. This span of twenty years comprised 56 per cent of the total number of patients. The remaining 34 per cent were over 60 years of age, of which 3 were 70 or older. Thirty-six or 57 per cent had passed the menopause before any symptoms had appeared. Many clinicians feel that lacerations and scars due to childbearing are a causative factor in the production of malignant lesions of the cervix. One author goes so far as to claim that 96 per cent of all cancers of the cervix were in women who had borne children. Others, while more conservative, agree that the ratio is much higher in those women in whom pregnancy has occurred. It has also been held that the change in the cervix during pregnancy due to endocrine stimulation may be an exciting factor in the production of malignancy. In the group of patients in this series 57 were married and 6 were single. It was noted, however, that 20, or 31 per cent, of the patients had not given birth to children, while the remaining 43 had a total of 151 children, an average of 3.5 children per patient. While the above figures are not conclusive because of the small groups under consideration, yet the proportion of malignancies in nonpregnant women is higher than is usually reported. The childbearing group showed that 8 women had 1 child each, 8 had 2, 8 had 3, 7 had 4, 4 gave birth to 5 children, 1 had 6, 3 had 7, 3 had 9, and 1 was the mother of 10 children.

On histologic examination the tumors in the series under discussion were placed in four grades of malignancy depending on the degree of differentiation in the tumor cells. Grade 1 showed malignant epithelial cells arranged in gland formation. This formation was maintained throughout and in some cases assumed papillary tendencies. As the degree of malignancy increased, loss of differentiation and gland formation was found, so that Grade 4 was composed of a solid growth of anaplastic cells with only an occasional at-

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 30, 1941.

From the State Institute for the Study of Malignant Diseases, Buffalo; Dr. Simpson, director.

toms: frequency and nocturia from infancy; recurring attacks of sharp pain over the right kidney associated with nausea, vomiting, and fever for the past five months. On examination there was pain and tenderness over the right kidney, an infected urine, and chronic retention of urine ranging from 400 to 700 cc. There were all the bladder changes seen in chronic prostatism with beginning hydronephrosis on the right side and a double kidney with separate ureters on the left side, one ureter being megalo in type.

The cause of this retention was a median bar, which can occur in the women as well as men and is important to remember on this account. As soon as the bar was removed the bladder emptied perfectly and the right hydronephrosis was entirely relieved.

The patient immediately improved, the urine became free from infection, and the parents are so satisfied that they will not allow the megaloureter to be removed. The gain in weight has

been 40 pounds, and the girl feels perfectly well.

The second patient showed the effect of calculus obstruction upon the renal parenchyma and the ability of the kidney to recover after the obstruction was removed.

Because all obstructive lesions do not turn out so happily, it goes without saying that the earlier the diagnosis and treatment, the better will be the result.

The medical man who first sees the patient carries a great responsibility, because upon his action will many times determine whether renal tissue can be saved or will have to be sacrificed later on.

Dr. Heslin mentioned the relationship of renal disease to hypertension and, while more study is necessary to clear up the exact status, a sufficient number of patients has already been greatly benefited, in carefully selected cases, by removal of the diseased kidney to warrant a careful survey of the urinary tract in every case.

SUGGESTIONS FOR MENTAL COMPOSURE AND EFFICIENCY

1. *To secure peace of mind*
 - a. Accept your present lot without fretting.
 - b. Assume that right and justice will ultimately prevail.
 - c. Strive for improvement without hindering the progress of others.
 - d. Avoid controversy by having a clear understanding in dealing with others.
 - e. Regard the achievements of yesterday as foundations on which to build today the temples of tomorrow.
2. *To solve difficulties*
 - a. Act promptly in meeting issues.
 - b. Accept full measure of responsibility.
 - c. Acknowledge faults and make reparation as soon as possible.
 - d. If others are at fault, be lenient in making demands upon them.
 - e. Do not dodge issues or run away.
 - f. Do not seek aid from alcohol or drugs. They only aggravate difficulties.
3. *To reach decisions in important matters*
 - a. Learn relevant facts.
 - b. Learn customary practices.
 - c. Anticipate results from experience of others.
 - d. Compare probable costs with probable gains.
 - e. When all data are available, concentrate on problem and decide promptly.

—*Mental Hygiene News*

PSYCHOLOGIC PREPARATION FOR ANESTHESIA

By the psychologic approach to a patient for anesthesia we mean our first visit to the patient before anesthesia, our method of talking with the patient and suggesting the type of anesthesia to be used for his particular case. Some of you may ask why is it necessary to talk with the patient or his relatives regarding the anesthesia. We answer this by saying that in some communities we are forced to give anesthetics in the presence of relatives or their friends. It would be most unfortunate for the anesthetist if he decided to give a patient a spinal anesthetic and when he started the procedure in the operating room either the patient or the observers expressed their objections. We feel that an understanding beforehand will put the patient in a much better frame of mind for the anesthesia and eliminate the possibility of embarrassment later. By answering the questions of the patient and easing fear, our work is made easier.

The anesthetist does play a very important part in the surgical team. He can make himself more important and appreciated if he insists upon visiting the patient before the anesthesia is given. From his history and physical examination he ascertains the patient's needs relative to sedation, and he also is a better judge as to the proper anesthetic and can do much to put the patient in a proper frame of mind for the approaching operation.—*George S. Michling, M.D., address before the Southern Medical Association*

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tempt at gland formation. Grades 2 and 3 present intermediate histologic pictures in which the differentiated glandular structure shows gradual changes into solid growth of undifferentiated tumor cells. In our group of patients, 15 were placed in Grade 1, 21 in Grade 2, 18 in Grade 3, and the remaining 9 in Grade 4. Based solely on their histologic grades, Grade 1 showed 60 per cent alive for five years; Grade 2, 38 per cent; Grade 3, 33 per cent; and Grade 4, only 11 per cent. It was consistently found that the more differentiated tumors were radioresistant; their rate of growth was slow with a tendency to remain localized and, consequently, a higher percentage of cures was noted. The more anaplastic growths, while more radiosensitive, showed more rapid growth and wide infiltration and gave rise to early metastases, resulting in a much lower rate of cure.

Dependent upon their localization or extension, the malignancies under study were placed in their respective clinical groups. In the lowest groups are those tumors in which the neoplasm was confined to the cervix. The intermediate groups comprised those tumors in which localized extension was noted, including infiltration of the broad ligament without uterine fixation. Patients in whom extensive infiltration, together with metastases, was found were placed in the high clinical group. The clinical group into which the patient was placed usually decided the ultimate fate of that individual. The histologic grade, however, was a factor to be considered in each individual case, because those patients in a low or intermediate clinical group had a much better prognosis when their tumor cells were found to be in a low histologic grade. In our series of patients alive and well for five years or over, it was noted that 46 per cent were placed both in the lower clinical groups and in histologic Grades 1 or 2, while Grade 3 and Grade 4 tumors in the same low clinical group showed only 25 per cent alive for the same period. In the intermediate clinical groups tumors of Grades 1 or 2 showed 25 per cent of five-year cures, while in the same clinical groups tumors of Grades 3 and 4 were found to have only 4 per cent alive after five years. In the high clinical groups there were no five-year survivals. Of those who succumbed to the disease, 15 per cent were in the low clinical and histologic groups, while the remaining 85 per cent of fatalities were in histologic Grades 3 and 4 or in the high clinical groups.

The duration of symptoms in these patients

showed a great variation. Some gave a history of disturbances for only a few weeks before examination, while others had suffered from irregular menstrual function together with discharge and pain for several years. They were divided into three classes: first, those with demonstrable symptoms under one year. Twenty-seven patients fell in this class. The second class, composed of 24 patients, consisted of those with symptoms for over one and under three years. The third class, comprising 12 patients, were those in whom abnormalities had been observed for over three years. It was found that of those in the first class 40 per cent had tumors in the histologic Grades 1 or 2; 60 per cent, in Grades 3 or 4. In the second class with symptoms for one to three years, 70 per cent had tumors in histologic Grades 1 or 2; 30 per cent, in Grades 3 or 4. Among patients with symptoms three years or over, 75 per cent had tumors in histologic Grades 1 and 2; 25 per cent, in Grades 3 and 4. This confirmed the general clinical observation that tumors of a low degree of malignancy may persist for many years and, while giving rise to symptoms indicative of malignant change, may remain localized and fail to develop metastases. On the other hand, highly anaplastic malignant infiltrating growths give rise to severe disturbances early and cause the patient to seek advice more promptly.

One case in the series is of sufficient rarity to warrant special mention. This was a mucoid adenocarcinoma arising in the cervix. The patient was 67 years of age, was married, and had borne 2 children. Two months before admittance she noted a bloody discharge with some pain. Examination revealed that the tumor process was confined to the cervix. The biopsy showed a growth composed of connective tissue in which large plaques of mucoid material were found. Interspersed throughout the mucoid tissue were areas of small, round, epithelial cells. In some fields the cells were found in glandular formation, while in other areas the cells were found singly or grouped together in small clumps. Following treatment this patient has remained well for fourteen years.

In the group of patients with adenocarcinoma of the cervix only 10 had received treatment before admittance to the Institute 9 of whom had been treated surgically. One had had one course of radiation therapy. Of this group, 3 have survived five years and 7 have died of the disease.

Treatment at the State Institute consisted

of interstitial radiation with gold seeds together with intracervical radiation with tandem tubes of 50 or 100 mg. of radium. Following this, a course of external irradiation with 200 kilovolts was given. Following this course of treatment, of the 63 patients considered, 24, or 38 per cent, are alive and have remained well for five years or more.

Conclusions

1. Adenocarcinoma of the cervix is a relatively rare condition.

2. The duration of the disease is closely

allied with the histologic group in which it will fall.

3. While the clinical grouping is the paramount factor in considering the prognosis, the histologic grade has a definite bearing on the end result.

4. In our series women who had not borne children were found to have adenocarcinoma of the cervix in a higher proportion than is usually reported.

5. Thirty-eight per cent have survived for five years under treatment that consisted mainly of radiation therapy.

PSYCHOLOGIC EFFECTS OF AIR RAIDS

The stimuli presented by a heavy air raid are far more intense and more terrifying than civilized human beings normally experience. Previous to observations in Britain many psychologists were apprehensive lest they lead to widespread panic and hysteria. This has not proved to be the case, says P. E. Vernon of the University of Glasgow writing in the *Journal of Abnormal Psychology* for October, 1941. The author has studied the observations and experiences of trained psychologists and psychiatrists, many of whom have undergone frequent raids in various parts of the country, including London.

Reactions to an air raid seem to be influenced chiefly by what previous experience one has had of raids. At first, the mere sound of the sirens frightened people, but before the end of 1940 Londoners were generally taking no notice of them unless accompanied by the noise of planes, gunfire, or bombs. In other parts of the country every degree of reaction to the warnings between the two extremes may be observed. The presence of a few planes overhead during daytime also soon ceases to affect most people. Acclimatization even to heavy raids at night is remarkable. Before long a considerable proportion manage to sleep in their own homes. More, perhaps, go to shelters or to some room in the house regarded as safe.

There is a moderate correlation between poor adaptation and age. People whose houses have been demolished or who have experienced an unusually severe blitz often regress for a time and show less habituation and more nervousness during the next few raids. A reversion occurs also during a long spell of immunity from raids, when emotional tension and fear seem to decrease. The infrequency of overt manifestations suggests that there is a certain amount of repression by social attitudes or by the ego-ideal.

Chief of the psychologic outlets or palliatives are the presence of a group, and activity. Persons of higher socio-economic class and education seem, in general, to be less attracted and less affected by social influences. Description of

what it feels like when bombs fall close suggests that there is commonly a confused state of emotional shock, a mixture of bewilderment, apathy, and depression (perhaps combined with physiologic effects of blast) persisting for several hours. However, a good deal of habituation occurs. Persons with a job to do mostly recover their poise readily and set about rescue work, fire-fighting, etc., immediately.

With regard to mental disorders attributable to air raids, psychiatrists seem to agree that (1) there have been some cases of mental disorder due to air-raid strain in subjects with an unfavorable history. Terror or sensations from blast here are less important than indirect effects such as extreme fatigue, dislocation of normal living, etc. (2) There have been fewer cases of neurosis than expected. (3) There have been no new or unexpected types of air-raid neurosis. (4) Among persons showing neurotic trends before heavy raids began, about one-half have shown no change; about one-fourth have become worse, and one-fourth actually improved. Psychotics are reported as being impervious to the effects of raids. Epileptics do not show any increase in fits.

The cases of mental disorder produced seem to fall into (1) acute terror and confusion, akin to so-called shell shock; (2) hysteria; (3) more serious cases ranging from acute or chronic anxiety states to psychotic reactions of a manic or hallucinated type. In general, the psychologic disorders would seem to be much less serious than the social disorganization consequent on the destruction of homes, disruption of communication, etc. Minor effects of raids, seen particularly at first, are irritability, depression and lowering of confidence, lethargy, slight dissociation of personality, increased smoking, and excessive talking about the raids. Raids seem to have less effect on children than adults. Since both adults and children show a surprising capacity for coping with fear in a psychologically satisfactory manner, it must be far more susceptible to control by social attitudes and by suggestion than has been supposed.—Abstract from *Library, Neuropsychiatric Institute of the Hartford Retreat*

THE UTILIZATION OF PUS IN THE TREATMENT OF PYOGENIC DISORDERS

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THE medicine of ancient times recognized the value of a certain kind of pus which it labeled as *pus bonum et laudabile*, or good and laudable pus.

Without going into a lengthy discourse about the significance of pus as such, it should be sufficient to mention a few known facts about it.

As a mechanical and biochemical defense measure of the body against the invaders, it contains the parasites in every conceivable stage of deterioration, their ectotoxins and endotoxins, as well as the entire complex of the biologic defense apparatus with its cellular and humoral components. Positive results have been obtained in complement fixation with pus or focal secretions. Positive skin tests with pus material, as in the Frei test, demonstrate the presence of specific elements in it. In short, pus represents the first and important line of defense which the body throws up against the invader.

The idea of utilizing it for the offensive is not new in the history of medicine. The practical handicap was the form in which the pus could be used.

In 1920 Dr. Dietrich¹ was testing out the germicidal properties of "yatren," an organic preparation in which an iodine atom is bound to a sulfon-o-oxy-benzol-pyridine radical. It is soluble in water up to 5 per cent. In animal experiments he could demonstrate that mice in which lethal doses of pneumococci culture, mixed with a 2½ per cent yatren solution, were injected continued to live, whereas the control animals injected with the same amount of pneumococci culture without the yatren all died. He also demonstrated that 5 per cent yatren solutions could be given intravenously without any damage to the animal.

In 1925 Dr. Orsos,² of Hungary, continuing the work with yatren, reported on a method of preparation of an auto-pus vaccine, which, due to its simplicity, could be prepared by any practitioner in the routine office work and without an elaborate bacteriologic instrumentarium. He used this vaccine primarily in gonorrhea and furunculosis but recommended it for any staphylococcal or streptococcal infection.

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, May 1, 1941.

A year later Dr. von Berde,³ also of Hungary, came out with a bacteriologic criticism of this method. He found that the vaccine still contained living microorganisms even if they proved to be less virulent after culturing and reinoculating them into animals. He speculated upon dire consequences that might arise if, for instance, an anthrax pustule should be mistaken for a boil and an Orsos vaccine prepared from it and given. Admitting, however, that the therapeutic results obtained were by far superior to any other method, he pointed out that the yatren in the ready vaccine was only in a ½ per cent solution and advised the use of the vaccine not earlier than twenty-four hours after its preparation.

For over a year we have followed the method of preparation as given by Orsos and never encountered the slightest complications. Shortly after appearance of von Berde's work, we slightly modified the method of vaccine preparation, securing its safety without diminishing its therapeutic value.

Orsos prepares his vaccine by putting 0.06 Gm. of the yatren powder into a sterile mortar, adding 2 to 3 platinum loops of pus to it grinding it for four to five minutes with a pestle, adding 1 to 2 drops of sterile water, grinding it again until a consistency of porridge is obtained, and adding, under constant stirring, the balance of water (8 cc.). According to Orsos, the vaccine is ready for use in eight to ten minutes, and the injections are given intravenously every other day, beginning with 1 cc. for the first, followed by 2 cc. for the second and the third, and the balance for the last injection. Our method of preparation differs from Orsos's only slightly. After the first two drops of water are added we grind it thoroughly for five minutes; then we add 1 cc. of water, stir it, and let it stand for fifteen minutes. This permits a saturated (i.e., 5 per cent) solution of yatren to work for twenty minutes on the microorganisms and carries the sterilization process further than in the original method. We have never been able to grow any microorganisms from vaccine prepared in this way.

From August, 1926, to August, 1941, we used this vaccine in 150 patients in private practice. The ages of the patients were be-

tween 8 and 61. The conditions in which it was used are seen in the following table:

Furuncles	122
Carbuncles	5
Subaxillar abscesses	4
Pararectal abscesses	2
Abscesses in a drug addict	1
Folliculitis capitis abscedens et suffodiens	2
Folliculitis decalvans	1
Panaritium	1
Acne conglobata	3
Hordeola	3
Dacryocystitis suppurativa	1
Pyoderma in an amputation stump	1
Staphylococcic septicemia	2
Generalized dermatitis	2
Total	150

A detailed analysis of each group is necessary for a proper evaluation of this method.

The largest group is that of furunculoses, the majority of which were of a chronic type with a previous history of various treatments, including the use of stock and conventional autovaccines. In 12 cases the localization was on the face, and in 5 of these lymphadenitis and chills were present. Eleven cases responded at once and made an uneventful recovery. One, with a large furuncle in the introitus nasi of only four days' duration, had squeezed it before consulting his physician. When seen, he presented an edema of the corresponding side of the face and eyelids and complained of severe headache and repeated chills and fever. A vaccine was prepared and given, but the patient died forty-eight hours after the first injection, which did not alter the course of the disease in any way.

Of the remaining 110 cases of furunculosis, 5 cases had a relapse after four injections but did not show relapses after eight injections. Three cases showed relapses even after a series of twelve injections. For the group of furunculoses the vaccine gives 3.28 per cent failures.

Five cases of carbuncles were treated. Two were in diabetic patients. After four injections they healed and no relapses were observed. A third case had a carbuncle on the neck the size of a fist, which was opened by the family physician two weeks previously but did not show any tendency to heal. After the first injection a profuse drainage started, and after three more injections the swelling was completely gone and the lesion was

rapidly healing. It closed completely one week later. Two more cases cleared up with four injections each.

Four cases of subaxillar abscesses responded to vaccine and were not followed by relapses. However, eight injections were required in each of these cases for a complete recovery.

Two cases of pararectal abscesses were treated. Each received four injections. One developed a relapse after eleven months and was treated again.

The vaccine had no effect in a case of abscess formation in a morphine addict.

Two cases of folliculitis and perifolliculitis capitis abscedens et suffodiens of long duration and histories of varied therapy, including x-ray, cleared up after four injections each.

The vaccine had no effect in a case of folliculitis decalvans.

A case of recurrent panaritium cleared up after four injections. No relapse has been observed in a period of two years.

Three cases of acne conglobata were treated. The vaccine was successful in only one of them and only as far as abscess formation was concerned.

Three cases of hordeola were treated—all of a chronic type of over three months' duration. Treatment was successful in 2 cases. The third did not clear up after eight injections and the patient declined to have more.

One case of dacryocystitis was sent by an ophthalmologist for Orsos vaccine treatment. Every conceivable previous therapeutic procedure, including repeated surgical draining, had failed. Six injections of autopus vaccine cleared up the condition.

One case of pyoderma in an amputation stump cleared up after eight injections.

One case of a chronic staphylococcic septicemia was treated repeatedly with the Orsos vaccine. Although the injections were improving his condition temporarily, the patient finally succumbed to the infection.

Similarly unsuccessful was the vaccine in a case of subacute staphylococcic septicemia which followed a carbuncle on the neck in a patient recovering from an appendectomy. The carbuncle was incised and drained; a septic temperature and a heart lesion followed. The vaccine was tried as a last resort and, although the carbuncle had diminished to one-half the size in the following two weeks, the patient did succumb to his heart lesion. It seems definite that septicemias are not the field for Orsos vaccine. Both of these cases were treated in the presulfanilamide era.

Two cases of generalized dermatitis of an erythroderma type were treated. One case cleared up completely; the other was not influenced by the vaccine.

A characteristic feature after the injection of the vaccine is the development of leukocytosis (15-25,000). Clinically, a profuse drainage sets in after the first or second injection. The healing process is a rapid one. As a rule, no untoward effects are observed. The temperature may rise 1 or 2 degrees after the first injection. A slight headache is complained of in about one-fourth of all cases. No alarming symptoms of any kind were ever observed, not even during the time when the preparation of the vaccine was done according to original method.

Contraindications are the same as for any other intravenous injection.

Conclusion

In our experience the auto-pus therapy as recommended by Orsos and modified by us compares favorably with all other conventional methods of treatment of acute and chronic pyogenic dermatoses. The advantage is the simple and rapid preparation of a "vaccine" followed by immediate administration and a rapid response.

The purpose of this report is to save from oblivion an excellent method of treatment which unjustly seems to have been discarded only on the strength of purely theoretic reasons mentioned above.

References

1. Dietrich: *Deutsche med. Wehnschr.*, No. 39 (1920).
2. Orsos, I.: *München. med. Wehnschr.*, No. 43 1823 (1925).
3. Von Berde: *München. med. Wehnschr.*, 1031 (1926).

Discussion

Dr. Harold L. Walker, *Elmira, New York*—Dr. Arnsson and some of the earlier workers such as Dietrich, Orsos, and von Berde were convinced that the Orsos autopyovaccine was definitely of greater therapeutic value than vaccines prepared from bacterial cultures. If this is true, there are three points that need consideration—namely: (1) What would be the

therapeutic effect if yatren alone were injected intravenously? (2) How does yatren affect the endotoxins, exotoxins, and antitoxins contained in the pus? (3) Are there any advantages to the intravenous administration of a vaccine as compared with the subcutaneous or intradermal methods?

(1) With regard to the intravenous injection of yatren, Orsos,¹ in 1938, stated that yatren used alone had no therapeutic value and that it passed through the blood stream and was secreted by the kidneys unchanged.

(2) The question as to the effect of yatren on the pus can be answered as follows: Dr. Arnsson has shown that yatren killed the organisms present, provided the method he outlined was carefully followed. Orsos believed that although yatren killed the organisms, it had less effect on the bacterial proteins than the admixture of urotropin, phenol, or the use of heat, all of which have been employed to sterilize vaccines. In addition, yatren did not destroy the exotoxins, antitoxins, or endotoxins that the pus contained. Orsos demonstrated this by titrating the amount of antitoxin present. He believed that herein lay the chief advantage of his vaccine, stressing the fact that the therapeutic results were so immediate because of the large amount of antitoxin it contained.

(3) The problem as to the relative values of the various methods of administration of a vaccine is still an open question. Dr. Arnsson used the intravenous method. Orsos believed that any of the three methods—intravenous, intradermal, or subcutaneous—were of value, although he preferred the intravenous method because he encountered few untoward effects in large series of cases.

Ayres, Anderson, and Foster,² in 1937, emphasized the fact that they employed the intravenous method of administering vaccines. They mentioned that recent studies had demonstrated that the intravenous method of administration of vaccines, rather than the subcutaneous or intradermal methods, resulted in a higher degree of immunization and that a desensitization to bacterial proteins developed, while occasionally an increased sensitivity to bacterial proteins followed the administration of vaccines by other routes.

¹ Orsos, I.: *Dermat. Wehnschr.* 106: 438-445 (April 16) 1938.

² Ayres, S., Jr., Anderson, N. P., and Foster, P. D.: *J.A.M.A.* 108: 858-860 (March 13) 1937.

The training of interns in the Columbia City Hospital does not include the niceties of diplomacy. At the meeting on anesthesia Dr. Reese gave himself up to an impassioned eulogy of modern methods:

"Take the case of the woman operated on this

very morning, who would be dead now were it not for intratracheal intubation. . ."

From the back of the room came the excited voice of Intern Treska:

"But, Dr. Reese, that woman did die."—*Martin O. Gannett, M.D., in Medical Economics*

DILUTE AND CONCENTRATED PREPARATIONS OF THE TOCOPHEROLS (VITAMIN E) IN THE TREATMENT OF FIBROSITIS

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VITAMIN E is not the name of a single chemical substance. It contains at least three definite chemical substances designated as alpha, beta, and gamma tocopherol, the antisterility potency of each being approximately in the ratio of 9, 2 $\frac{1}{2}$, and 1, respectively. The chemical structures of these three tocopherols have been determined, and alpha tocopherol has been synthesized successfully. Alpha tocopherol is obtained by allophanation of the vitamin E rich concentrate in the form of its allophanate of melting point 160° (Evans, Emerson, and Emerson¹). By careful saponification of the esters, the tocopherol itself is obtained as a pale yellow oil with all the properties of the above concentrate. The yield varies much and amounts at best to 1 Gm. of tocopherol allophanate from 1 Kg. of wheat germ oil. Its formula is C₂₉H₅₀O₂. Fernholz² has advanced the structural formulas as shown in Fig. 1.

Beta tocopherol crystallizes as the allophanate of melting point 146° from the mother liquor of the alpha tocopherol allophanate of allophanated wheat germ oil. The yield is variable, at times greater, and frequently less, than the alpha tocopherol

John³ gave it the formula C₂₈H₄₈O₂. Its structural formula is shown in Fig. 2.

Gamma tocopherol was isolated by Emerson, Evans, and others⁴ from cottonseed oil as the allophanate of melting point 138°. It is isomeric with beta tocopherol of the formula C₂₈H₄₈O₂ and equals this also in biologic activity. By thermal decomposition of gamma tocopherol, pseudocumhydroquinone is obtained.

The commercial vitamin E preparations are evaluated by biologic tests expressed in rat units, fertility dosage, Pacini-Linn units and, recently, by the percentage of alpha and beta tocopherol. A rat unit (RE) is that amount of vitamin E which in a solitary dose will prevent resorption-sterile female rats during the twenty-one days of pregnancy, enable the rat to give birth to at least some living young. The Pacini-Linn unit is calculated by the formula 1,000 × mg. where mg. is the weight of the vitamin E concentrate that must be administered by mouth in daily doses in order to prevent resorption sterility in female rats. The Pacini-Linn units correspond to 0.1 Gm. The percentage of alpha + beta tocopherol × 100, by coincidence, approxi-

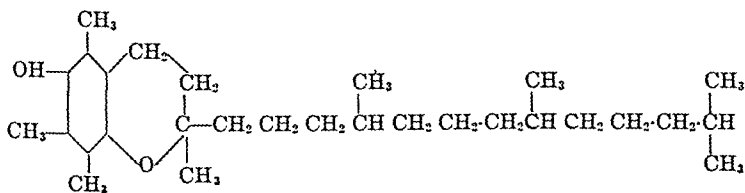


FIG. 1.

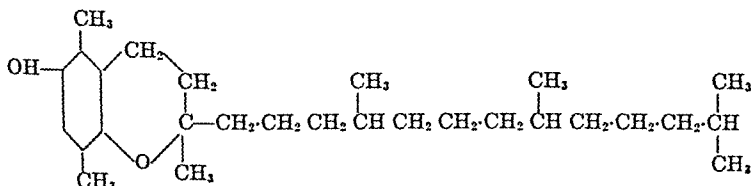


FIG. 2.

TABLE 1.—PRIMARY FIBROSITIS

Medicament Employed	Cases Treated	Marked Improvement	Slight Improvement
Dilute vitamin E (wheat germ oil)	30	28	2
Concentrated vitamin E (tocopherex)	20	30	

mates the Pacini-Linn units per gram.

Vitamin E is widely distributed in nature. Dried wheat germ requires 250 mg. as a curative dose; wheat germ oil, 75 mg.; fresh green lettuce, 2.5 Gm.; dried green lettuce, 300 to 500 mg.; peanut and cottonseed oil, about 1 Gm.; and fruits such as oranges and bananas, 20 to 30 Gm. The curative dose of palm, linseed, and soy oil is 1 to 2 Gm.; hog fat, 3 to 5 Gm.; beef muscle, 3 to 5 Gm.; and beef liver, 5 to 10 Gm.

Evans and Burr⁵ were the first investigators to describe a spastic paralysis occurring in the suckling young of rats when the mothers are deprived of vitamin E. These sucklings begin to show difficulty in regaining their limbs when placed on their backs when 21 days old. The disease increases in severity during the ensuing four to five days, and by the twenty-fifth day of life practically all the animals destined to develop the disease will exhibit it. About 35 per cent of the affected animals die, 17 per cent recover completely, and 48 per cent continue to exhibit paralysis of some limb or body group of muscles throughout life. There are marked variations in these results. All attempts to cure the disease after it has been established for several days fail. However, the disease is prevented if the mother's diet is shifted from a vitamin-E-deficient diet to one rich in vitamin E on the day of the birth of the rats. It is already too late to forestall disaster if the shift to a vitamin-E-rich diet is delayed until the earliest appearance of paralysis in any member of the litter. Einarson and Ringsted⁶ have shown that diets deficient in vitamin E will cause similar changes in adult rats. Blumberg,⁷ Madsen,⁸ Morgulis and Spencer,⁹ and Morgulis, Wilder, and Eppstein¹⁰ have stressed the importance of deficient vitamin E diets causing primary muscular dystrophy.

Three clinicians have recently reported excellent results in the use of vitamin E or the synthetic tocopherols in the treatment of primary muscular dystrophies or of muscular dystrophies resulting from neurologic conditions. Bicknell¹¹ gave 1/2 ounce of dried wheat germ to 18 patients with muscular dystrophies. Improvement was noted in 12

cases; the remaining 6 cases showed no improvement. The period of treatment varied from six weeks to eighteen months. The shortest period of treatment in the improved group was two months. Wechsler¹² described 2 cases of amyotrophic lateral sclerosis which improved by treatment with a synthetic preparation of alpha tocopherol. Stone¹³ reported excellent clinical improvement in 5 children with muscular dystrophy, in 1 child with muscle atrophy following anterior poliomyelitis, and in 1 child with muscle atrophy after an attack of multiple neuritis. He employed 2 to 6 cc. of wheat germ oil daily. These experiments and clinical reports, particularly those concerning the muscle changes associated with vitamin E deficiency, stimulated me to try the clinical effects of vitamin E in the treatment of fibrositis.

This condition may be defined as an inflammatory reaction of fibrous connective tissue present anywhere in the body. The pathologic picture found in fibrositis and that described by Pappenheimer¹⁴ as occurring in sucklings on a deficient vitamin E diet are practically alike except for the formation of palpable fibrous nodules in the former. Fibrositis may occur as a primary disease or as a secondary disease. Internists are familiar with the muscle pain, swelling, and pain associated with atrophic arthritis or gout. They have seen painful swollen bursae associated with many of the rheumatic diseases. However, few are familiar with the disease as a primary one. Many common diseases are, in fact, evidences of primary fibrositis but masquerade under various titles. These are variously diagnosed as lumbago, torticollis, muscular rheumatism, tendinitis, periarticular fibrositis, panniculitis, myositis, etc. A working classification of diseases of the muscles is given below.

- I. Parenchymatous myositis
 - (a) Suppurative
 - (b) Nonsuppurative
- II. Myopathies
 - A. Primary myopathies
 1. A heterogeneous group such as pseudohypertrophic, fascio-scapulo-humeral, bulbar, juvenile, scapular, infantile hereditary
 2. Myasthenia gravis
 3. Amyotonia congenita
 4. Myotonia congenita
 5. Myotonia atrophica
 - B. Progressive nuclear muscular atrophy

TABLE 2.—SECONDARY FIBROSITIS

Primary Disease	Total No. of Cases	Improved	Unimproved
Atrophic arthritis	4 (concentrated vitamin E) 20 (dilute vitamin E)	1 8	3 12
Hypertrophic arthritis	2 (concentrated vitamin E) 20 (dilute vitamin E)	0 0	2 20
Senile muscle changes	3 (concentrated vitamin E)	1	2
Psychosomatic rheumatism*	2 (concentrated vitamin E) 8 (dilute vitamin E)	0 0	2 8
Sciatica	1 (concentrated vitamin E) 3 (dilute vitamin E)	1 0	0 3
.	4 (concentrated vitamin E)	3	1
.	1 (concentrated vitamin E)	0	1
Gout	1 (concentrated vitamin E) 1 (dilute vitamin E)	0 0	1 1

* These are not cases of secondary fibrositis and, therefore, have been excluded from the totals.

1. Mainly of small muscles of hands
2. Hereditary, familial, of infancy and childhood
3. Subacute and chronic poliomyelitis
4. Progressive bulbar palsy
5. Chronic progressive ophthalmoplegia

III. Interstitial myositis

A. Myositis ossificans

B. Intramuscular fibrositis

1. Primary (muscular rheumatism, lumbago, torticollis, etc.)
2. Secondary (atrophic arthritis, rheumatic fever, gout, etc.)

The first group of cases studied¹⁵ were given wheat germ oil in doses ranging from 2 to 8 cc. This group included 30 cases of primary fibrositis, 20 cases of fibrositis secondary to atrophic arthritis, 20 cases of fibrositis secondary to hypertrophic arthritis, 1 case of fibrositis secondary to gout, 3 cases of sciatica (cause unknown), and 8 cases of so-called psychosomatic rheumatism (psychoneurotics). All these cases had been observed for a period of three months to two years under different methods of therapy so that their clinical status at the time of beginning vitamin E therapy was "stabilized." The wheat germ oil was given in equally divided doses three times daily. The oil was taken in a tablespoon of milk at mealtime. Many patients complained of the unpalatable taste, some said that the oil repeated.

Of 30 cases of primary fibrositis that were treated with wheat germ oil in doses of 2 to 8 cc. daily, 28 cases were completely relieved of all symptoms. Two cases in this group noticed mild relief from symptoms after having received 3 cc. of wheat germ oil daily for four weeks (see Table 1). The 20 cases of atrophic arthritis with secondary fibrositis (see Table 2) were given 2 to 8 cc. of wheat germ oil daily over a period of two to four months. Eight cases noted definite improvement in muscle

soreness and stiffness. Twelve patients experienced no relief. The 20 cases of hypertrophic arthritis with secondary fibrositis that were given 2 to 6 cc. of wheat germ oil daily over a period of two to six months noticed no improvement in the soft tissue structures. One case of gout was given 4 cc. of wheat germ oil daily for a period of four weeks without relief from extreme muscle soreness. The 3 cases of sciatica that were given 4 cc. of wheat germ oil daily for a period of four weeks noticed no improvement. The 8 patients with a diagnosis of "psychosomatic rheumatism" were given wheat germ oil over a period of two to three months without relief.

The second group of cases were treated with tocopherex. This is a trade name for a product containing the natural mixed tocopherols—alpha, beta, and gamma. This mixture is known to have a minimum anti-sterility equivalent of 60 per cent—viz., for every 25 mg. of the mixed tocopherols which it contains, there will be an antisterility potency equal to at least 15 mg. of pure alpha tocopherol. These tocopherols are stripped from large quantities of cottonseed and soybean oils. At least three distillations, generally four, are involved in special "short path" stills under vacuums ranging down to 1,000 mm. All three of the tocopherols possess antisterility qualities. Which one of these tocopherols is most effective in muscular disorders is unknown. One capsule containing 0.2 cc. of the natural mixed tocopherols (tocopherex) was given three times daily after meals to 36 patients having either primary or secondary fibrositis. The dosage was doubled—that is, 2 capsules instead of 1 were given three times daily—for 2 patients having primary fibrositis. These patients were observed for a period of one to five months under this therapy. If no improvement was observed in the first two to three weeks' treatment, none occurred later under continued therapy with tocopherex. No toxic symptoms were ob-

served. Whereas several patients complained of the wheat germ oil repeating or causing mild gastric disturbances, none reported such untoward effects with tocopherex.

The group treated with tocopherex consisted of 20 cases of primary fibrositis, 4 cases of fibrositis secondary to atrophic arthritis, 2 cases secondary to hypertrophic arthritis, 4 cases secondary to Marie-Strümpell arthritis, 2 cases of psychosomatic rheumatism, 1 case of fibrositis associated with sciatica, 1 case of muscle atrophy associated with combined sclerosis, 1 case of muscle pain associated with polycythemia vera, and 3 cases of muscle pain in senile individuals.

Typical Case Reports

Case 1.—Mrs. A. C., a white woman aged 45, was seen on October 7, 1940, complaining of pain and swelling of the left side of the neck for nine days. There had been no previous infection of the upper part of the respiratory tract, local trauma, or local exposure to chilling. An examination revealed a marked swelling and a local tenderness of the left sternocleidomastoid muscle. The sedimentation rate was 0.08; white blood count, 7,150; red blood count, 4,450,000; hemoglobin, 12.8 Gm. The Schilling differential was: Stabzellen, 11 per cent; segmented forms, 61 per cent; lymphocytes, 21 per cent; monocytes, 3 per cent; eosinophils, 4 per cent. No lymphadenopathy was noted. Fluoroscopy revealed no abnormal masses in the mediastinal area; an x-ray of the mastoid area revealed no bone pathology. The patient was given 1 capsule of the concentrated vitamin E preparation three times daily. The swelling of the muscle was almost entirely gone on November 19, 1940, and was completely gone on November 26, 1940. There has been no recurrence.

Case 2.—I. P., a white woman aged 27, was seen on December 6, 1940, complaining of pain and stiffness of the muscles of her back. She first noticed spasms of the muscles on either side of her spine in the spring of 1939. This "attack" lasted four weeks; it recurred in October, 1940, and had been constantly present until seen on December 6, 1940. Four weeks before first being seen by me, the patient noticed two hard pea-sized nodules in her lower back and on the posterior aspect of the left hip. An examination revealed muscle spasm and tenderness of the erector spinae group and two firm non-tender 1-cm.-sized nodules under the surface of the skin on the posterior aspect of the left hip. The sedimentation rate was 0.22; red blood count, 5,040,000; hemoglobin, 14 Gm.; white blood count, 6,850. The Schilling differential was: Stabzellen, 8 per cent; segmented forms, 43 per cent; lymphocytes, 40 per cent; mono-

cytes, 7 per cent; basophils, 2 per cent. The uric acid was 3.0. She was given 2 capsules of the concentrated vitamin E preparation, and she reported complete alleviation of all symptoms one week later. No nodules were found during this visit.

Case 3.—E. S., aged 31, was seen on April 27, 1940, with a history of a swelling on the dorsum of the left hand of two weeks' duration. An examination revealed a typical ganglion. This was treated by striking the dorsum of the hand with a book. The ganglion disappeared. It reappeared on September 14, 1940, and was successfully treated by similar method. The patient was again seen on December 21, 1940, at which time he noticed nodules on the dorsum of the second left finger and on the inner surface of the right arm. These were typical fibrous nodules about 1.5 cm. in diameter and situated subcutaneously. He had also noticed generalized muscle soreness and vague joint pains for a period of two years. These came in periodic attacks. The sedimentation rate was 0.20; red blood count, 5,630,000; hemoglobin, 15 Gm.; white blood count, 8,800. The Schilling differential was: Stabzellen, 7 per cent; segmented forms, 56 per cent; lymphocytes, 30 per cent; monocytes, 5 per cent; eosinophils, 2 per cent. He was given 1 capsule of tocopherex three times daily. He noticed marked relief in the muscle soreness in a period of two weeks; there was no change in the nodules.

Case 4.—E. R. F., a white man aged 48, was seen complaining of muscle pain and soreness of the erector spinae group of muscles on and off for a period of twenty-five years. On April 15, 1940, he complained of severe pain over the posterior aspect of the right shoulder. An examination at this time showed a swelling and a tenderness of the right trapezius muscle. He was treated by rest and local heat. However, he continued to complain of muscle pain and stiffness in different groups of muscles until December 28, 1940, at which time he was given 1 capsule of tocopherex three times daily. One week later all the muscle soreness and pain had disappeared. The sedimentation rate was 0.10; red blood count, 5,710,000; hemoglobin, 16.5 Gm.; white blood count, 8,500. The Schilling differential was: Stabzellen, 5 per cent; segmented forms, 64 per cent; lymphocytes, 28 per cent; monocytes, 2 per cent; eosinophils, 1 per cent.

Summary

There are four groups of vitamin E products available on the market: (1) natural products such as wheat germ, lettuce, alfalfa, etc.; (2) in more concentrated form such as wheat germ oil; (3) in extremely concentrated products such as that obtained by special distillation (tocopherex); (4) a synthetic product

(ephynal acetate). All these substances except the last contain alpha, beta, and gamma tocopherol. The synthetic product contains only d-1 alpha tocopherol. The synthesis of the latter substance is simple. Phytyl bromide XXVI is condensed with pseudocumohydroquinone by the aid of zinc chloride to give an almost 100 per cent yield of d-1 alpha tocopherol. This synthesis was first carried out by Karrer and his associates. The more stable acetic acid ester of d-1 alpha tocopherol is available commercially as ephynal acetate. All the aforementioned substances possess antisterility potency. The exact factor dealing with normal muscle metabolism has not yet been determined. Both wheat germ oil and a concentrated product obtained by special distillation from various oils were used in the treatment of 50 cases of primary fibrositis and 60 cases of secondary fibrositis. Twenty-eight cases of primary fibrositis were completely relieved of all symptoms with wheat germ oil and 20 cases of primary fibrositis were completely relieved of all symptoms with tocopherex. Mild gastric disturbances were noted in several cases receiving wheat germ oil, but none were observed with tocopherex. Tocopherex was more useful in alleviating muscle spasm noted in the back with Marie-Strümpell arthritis. Both products were considered relatively ineffective in the treatment of secondary fibrositis.

Conclusions

1. Wheat germ oil and tocopherex are of value in the treatment of primary fibrositis.
2. The more concentrated preparation of vitamin E, tocopherex, causes less gastric disturbances than wheat germ oil.
3. Further studies should be done to determine which fraction of vitamin E is effective in the treatment of muscle disorders.
4. Continued observation may show that vitamin E may prevent, rather than cure, the severe muscle atrophy found in atrophic arthritis.
5. Primary fibrositis is a metabolic rather than an infectious disease.

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Discussion

Dr. Morris Ant, Brooklyn—Dr. Steinberg's presentation of the use of tocopherols in the treatment of fibrositis is timely. The value of this work is especially important since it brings forth the use of a commonly found vitamin into the field of a group of so-called rheumatic diseases. It becomes clear that lumbago, torticollis, muscular rheumatism, tendinitis, and other muscular incapacities may be relieved by means of vitamin E. I should like to draw attention to his report of the excellent results obtained in the cases of Marie-Strümpell disease. An old synonym for this disease is spondylitis ossificans ligamentosa or rheumatoid arthritis of the spine. This coincides with the improvements reported in the primary rheumatic conditions and also with the improvement in the group of rheumatoids because of the secondary involvements of the tendons, muscles, sheaths, fascia, and aponeurosis. These results and my own experience with wheat germ oil for the past six years indicate to me that the tocopherols have a selective affinity for fibrous tissue.

The pathology in fibrositis is assumed to be an ischemic necrosis—necrosis of the ganglion cells, edema, hemorrhage, and the presence of hyaline thrombi in small vessels, all pointing to a circulatory blockage as causing the lesion. Repair sets in with gliosis, a new growth of blood vessels, and reticulum fibers. This recovery is similar to spontaneous recovery in rats with muscle dystrophy due to vitamin E deficiency. However, the rat has no pyramidal tract; therefore, neither the pathology nor the improvement could come by way of the nervous system.

The reports of the cures of amyotrophic muscular dystrophy seem to me not to be due to the good effects of vitamin E on the nerve tissues but to the good effects upon the fibrous muscle sheaths in which the neurites and end plates are located. White fibrous tissue is known to swell in the presence of acids and alkalis. Any toxic agent may create a medium for the swelling of fibrous tissue, or we may postulate that the presence of sufficient vitamin E reserve in fibrous tissue may act as a buffer to keep fibrous tissue in a normal medium.

The observation by Dr. Steinberg that the nuclear muscular dystrophies are not relieved to any extent, or that the hypertrophic osteoarthritic changes are not affected, further hints

served. Whereas several patients complained of the wheat germ oil repeating or causing mild gastric disturbances, none reported such untoward effects with tocopherex.

The group treated with tocopherex consisted of 20 cases of primary fibrositis, 4 cases of fibrositis secondary to atrophic arthritis, 2 cases secondary to hypertrophic arthritis, 4 cases secondary to Marie-Strümpell arthritis, 2 cases of psychosomatic rheumatism, 1 case of fibrositis associated with sciatica, 1 case of muscle atrophy associated with combined sclerosis, 1 case of muscle pain associated with polycythemia vera, and 3 cases of muscle pain in senile individuals.

Typical Case Reports

Case 1.—Mrs. A. C., a white woman aged 45, was seen on October 7, 1940, complaining of pain and swelling of the left side of the neck for nine days. There had been no previous infection of the upper part of the respiratory tract, local trauma, or local exposure to chilling. An examination revealed a marked swelling and a local tenderness of the left sternocleidomastoid muscle. The sedimentation rate was 0.08; white blood count, 7,150; red blood count, 4,450,000; hemoglobin, 12.8 Gm. The Schilling differential was: Stabzellen, 11 per cent; segmented forms, 61 per cent; lymphocytes, 21 per cent; monocytes, 3 per cent; eosinophils, 4 per cent. No lymphadenopathy was noted. Fluoroscopy revealed no abnormal masses in the mediastinal area; an x-ray of the mastoid area revealed no bone pathology. The patient was given 1 capsule of the concentrated vitamin E preparation three times daily. The swelling of the muscle was almost entirely gone on November 19, 1940, and was completely gone on November 26, 1940. There has been no recurrence.

Case 2.—I. P., a white woman aged 27, was seen on December 6, 1940, complaining of pain and stiffness of the muscles of her back. She first noticed spasms of the muscles on either side of her spine in the spring of 1939. This "attack" lasted four weeks; it recurred in October, 1940, and had been constantly present until seen on December 6, 1940. Four weeks before first being seen by me, the patient noticed two hard pea-sized nodules in her lower back and on the posterior aspect of the left hip. An examination revealed muscle spasm and tenderness of the erector spinae group and two firm non-tender 1-cm.-sized nodules under the surface of the skin on the posterior aspect of the left hip. The sedimentation rate was 0.22; red blood count, 5,040,000; hemoglobin, 14 Gm.; white blood count, 6,850. The Schilling differential was: Stabzellen, 8 per cent; segmented forms, 43 per cent; lymphocytes, 40 per cent; mono-

cytes, 7 per cent; basophils, 2 per cent. The uric acid was 3.0. She was given 2 capsules of the concentrated vitamin E preparation, and she reported complete alleviation of all symptoms one week later. No nodules were found during this visit.

Case 3.—E. S., aged 31, was seen on April 27, 1940, with a history of a swelling on the dorsum of the left hand of two weeks' duration. An examination revealed a typical ganglion. This was treated by striking the dorsum of the hand with a book. The ganglion disappeared. It reappeared on September 14, 1940, and was successfully treated by similar method. The patient was again seen on December 21, 1940, at which time he noticed nodules on the dorsum of the second left finger and on the inner surface of the right arm. These were typical fibrous nodules about 1.5 cm. in diameter and situated subcutaneously. He had also noticed generalized muscle soreness and vague joint pains for a period of two years. These came in periodic attacks. The sedimentation rate was 0.20; red blood count, 5,630,000; hemoglobin, 15 Gm.; white blood count, 8,800. The Schilling differential was: Stabzellen, 7 per cent; segmented forms, 56 per cent; lymphocytes, 30 per cent; monocytes, 5 per cent; eosinophils, 2 per cent. He was given 1 capsule of tocopherex three times daily. He noticed marked relief in the muscle soreness in a period of two weeks; there was no change in the nodules.

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INDUSTRIAL OTOLOGY IN CAISSON WORKERS

RALPH ALMOUR, M.D., F.A.C.S., New York City

THE otologic conditions that are peculiar to compressed air work are well known and are established entities. The earliest descriptions of these aural disturbances date back more than a century. In 1820, Hamel¹ reported severe pain in the ears during a descent in a diving bell. His observation was the first attempt to estimate the cause and suggest a means for preventing the illness following submersion, even though work in compressed air is recorded as having been performed at the siege of Tyre in 333 B.C.² Not until Triger employed compressed air in 1839³ to keep back the water entering a mining shaft was the first inkling afforded as to the proper means of overcoming the lesions that result from working in compressed air. He was the first to use a chamber at the top of the tube, which for practical purposes was an "air lock," even though it was merely utilized to permit men and materials to enter and emerge without loss of the pressure maintained within the tube.

Triger's success in overcoming engineering problems hitherto considered insurmountable led to a more widespread use of his methods. In 1854, Pol and Watelle reported their observations of 64 men who were working in approximately 36 pounds per square inch air pressure.⁴ They reported that pain in the ears and diminution in hearing while being "locked-in" were among the many complaints noted. In 1860, François⁵ reported progressive impairment of hearing and pain in the ears and some cases of purulent otitis in compressed air workers. He was the first to propose rules of decompression for men working in this field. It is interesting to note his regulations. At that time he recommended that compression to $\frac{1}{4}$ to $\frac{1}{2}$ atmospheric pressure should consume four to five minutes. Also, atmospheric pressure required twelve minutes in order to get the worker acclimated.

Jaminet,⁶ in 1871, cautioned against "too sudden a transition from normal atmosphere to an over-condensed one." The monumental work of Smith,⁷ in 1873, was the first lucid description of some of the otitic lesions due to compressed air and the adequate treatment

of caisson disease by decompressing in a medical lock.

Smith's description of the physiologic and pathologic changes in the ear under compressed air deserves repetition: "It is a law of acoustics that within the limits of mobility, the denser the medium through which the sound waves are communicated, the larger the wave, and therefore the louder the sound. This supposes, of course, that the ear itself remains under normal conditions. Such, however, is not the case when the observer is in a highly condensed atmosphere. The unusual pressure upon all parts of the auditory apparatus opposes a mechanical obstacle to the freedom of vibration, which is essential to perfect hearing. Hence, although larger sound waves may strike upon the eardrum, feebler impressions are communicated to the auditory nerve and the sound appears to be fainter than in the open air. Thus, by repeated experiments, I found that a watch that could be heard distinctly at a distance of 18 inches in a very noisy place, could not be heard at a greater distance than 2 inches in the comparative silence of the caisson."

This observation of Smith, while basically correct, does not hold true for the complex work that is now being performed under compressed air. The worker in this field is subjected to industrial hazards that are the same as those encountered by men engaged in occupations conducted under normal atmospheric pressure. There are many otologists who have concerned themselves with this problem. Alt, Heller, Mayer, von Schrötter, and Gomez,⁸ Lester,⁹ Hill,¹⁰ Boot,¹¹ Vail,¹² Lestienne,¹³ Magnotti,¹⁴ Willhelmy,¹⁵ among others, have all been interested in this problem.

The condition most familiar to the physician is that which is commonly called "the bends." From the otologic standpoint this may assume one of two forms. The subject may present a Ménière's symptom complex or there may be an apoplectiform type of deafness. Damage to the perceptive mechanism is rare during compression, although vertigo may occasionally be experienced. There are two theories concerning the manner in which the labyrinth can be involved. One is the hydraulic theory, which proposes that on decompression vasoconstriction occurs in the dermal capillaries, thus causing an engorge-

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From the Department of Otolaryngology, Beth Israel Hospital.

at the specificity of vitamin E for fibrous tissue. The maintenance of normal fibrous tissue metabolism, therefore, depends upon proper nutrition—proper diet with enough vitamin E in the daily intake. We may say, therefore, that wheat germ oil is the lubricating grease for the normal physiology of fibrous connective tissues, just as vitamin A is the lubricating oil for squamous epithelial tissues.

The use of vitamin E becomes a rational treat-

ment in many traumatic skeletal dystrophies affecting fibrous tissues, as well as in a large group of rheumatoid complications. We may now look forward to an increased interest in the treatment of both primary and secondary myopathies by means of metabolic and nutritional agents rather than by sedatives and opiates.

I wish to express my thanks to Dr. Steinberg for his fine presentation on the use of tocopherols.

PHYSICIANS IN CITIES ARE INCREASING FIVE TIMES AS FAST AS POPULATION

Cities of 50,000 and over show a population gain of 2.8 per cent in the last five years (1936-1941). During the same period and in the same cities, practicing physicians have increased 14.4 per cent. In other words, the rate of growth in number of medical men has been five times the rate of growth in population.

These facts are from a study of professional and lay population shifts, based on reports from the U. S. Bureau of the Census and on an analysis of *Medical Economics'* mailing list of more than 130,000 practicing physicians.

The study reveals that only 34 per cent of Americans live in the larger cities mentioned, but that 55 per cent of all active physicians practice there. What's more, the flow of medical men into urban centers is accelerating steadily.

The larger the city, especially above 100,000 population, the smaller the number of people per physician. Obvious results in our metropolitan

areas are (1) too many doctors; (2) not enough patients. All of which helps explain one of the chief findings of *Medical Economics'* Survey of Medical Practice—namely, that the average income per physician becomes progressively smaller as the population of the city increases above 100,000.

The degree of health and wealth enjoyed by a city's population undoubtedly has a marked effect on the doctor's income. Nevertheless, it is still often true that a decline in the number of potential patients per doctor causes a decline in average revenue per doctor.

The practitioner today who wants more patients will generally find them not in the metropolitan areas but in the smaller communities of less than 50,000 people. Fewer physicians are settling in such places, yet population there is growing almost half again as fast as it is in the big cities.—*Medical Economics*

"On blue days when the hunt for truth about people seems futile or when I fear the consequences my more and more open expression of dangerous truth may have for me, I'm bucked up by the memory of Charles Armstrong's chuckle. After he had just dodged dying from the parrot fever he was fighting, he came back to trap the deadly virus of the St. Louis sleeping sickness. Then a mysterious brain malady, caught while studying his sleeping sickness monkeys, knocked him over. But Armstrong got up off the floor."—*Paul de Kruif, M.D., in a testimonial article on Dr. Armstrong, published in The Ladies Home Journal.* [Dr. Armstrong has since received the Sedgewick Memorial Medal, the American Public Health Association's significant award.]

During the Battle for Britain, the British Broadcasting Corporation recorded the sounds of warfare as a medical service. This will be used as a cure for patients driven to neurotic breakdowns by the unaccustomed clamor of air raids. The patient, after the treatment and its aims are explained, is subjected to the sounds that brought about his breakdown. Reassuring and encouraging talks, interspersed with war recordings, build up control and confidence. This conditioning, over a period of time, rids the patient of his fearful anxiety and normalizes reaction. In Washington the War Department recently previewed battle-punctuated sound tracts of a blitzkrieg attack, the first of several hundred that are to be produced to condition United States soldiers against the fear psychosis.

—*Wichita Medical Bulletin*

ness is not diffuse but spotty and streaked. Upon magnification, the injected vessels are seen anteriorly, superiorly, and posteriorly radiating toward the annulus from the hammer handle. The lower, anteroinferior portion of the drum is almost normal in appearance. An important differentiating point between all degrees of blocked ear and the acute catarrhs is the rapid disappearance of otalgia. In acute catarrhal otitis media, intermittent pain persists for several days.

In the blocked ear of second degree three forms can occur. In the *mild* variety one or more hemorrhages within the substance of the drum appear soon after the trauma. They are seen as purplish spots. The most frequent location for a solitary hemorrhage is in the posterosuperior quadrant. The hemorrhage is always sharply outlined and nondissecting, and it does not increase beyond its original size. Multiple hemorrhages do not coalesce. A bulla is never formed and so it cannot be confused with the hemorrhagic blebs of influenza otitis.

In the *moderate* form an intratympanic hemorrhage occurs. Hemorrhage in the drum itself may or may not occur. Contrary to what one would expect, the tympanic membrane is retracted and the osseous landmarks are accentuated. Its color is a diffuse purple. Magnification easily identifies the glistening gray of the epidermal layer through which shines the purple of the intratympanic hemorrhage. Symptomatically, sufferers from these two forms of second-degree blocked ear show no difference as to quantity or duration of their complaints.

In the *severe* form the retraction is extreme and the incudostapedial articulation is visualized. Pressure of this joint against the drum can result in a perforation. Lange¹⁷ believes that this factor accounts for the frequency of hemorrhages in the posterosuperior quadrant. It is often difficult to determine whether the tympanic membrane has been torn through completely, since the edges of small tears heal quickly or are covered with a blood clot. Of the individual layers of the drum, Brügge-mann¹⁸ noted that the epidermal one was lacerated more frequently than the others.

Perforations, when seen early, present ragged margins and are central in type. They may be of any size and may be single or multiple. There may or may not be free bleeding, and the intact portion of the drum may or may not show isolated hemorrhagic spots. This is of the utmost importance for the industrial otologist, because upon several oc-

casions I have heard expert testimony to the effect that hemorrhage from the ear constitutes prima-facie evidence of injury to the internal ear.

It has been my experience that where a blocked ear results in a perforation the drum has been the seat of atrophic changes or old scars; this in itself is evidence of a prior insult to hearing.

The Loss of Hearing Following Blocked Ear

Ninety-three cases of blocked ear have come to my attention from the point of view of compensation. Fifty-five can be considered in evaluating damage from trauma, 15 stated that they had a loss of hearing before sustaining the injury, 9 were seen when at least a week had elapsed following the incident, 8 refused to have their hearing tested and 6 were unquestionable malingerers. The 55 cases under consideration all showed an acute loss of hearing. This loss exhibited no characteristic that could in any way be interpreted as typical, either upon audiometric test or with the tuning forks. In 24 cases a record of the immediate loss showed a drop in the 2,048, 4,096, and 8,192 octaves. In 25 cases the drop was predominant in the 128, 256, and 512 ranges. The other 3, wherein both ears were blocked, showed discrepancies. One showed a parallel loss of air conduction for the upper three tones, while in one a lower tone deafness was noted in one ear and in the other the high tones were markedly depressed.

It has been my experience that in the vast majority of cases of blocked ear without perforation of the drum, hearing returns to within normal limits after the eustachian tube has been rendered patent and after heat, either by short wave or diathermy, has been used to hasten the absorption of hemorrhage. The degree of blocked ear does not influence the time required for the return of hearing to approximate the normal, since the greatest duration of therapy to bring about this therapeutic result occurred in a mild case of first-degree blocked ear. I have found that the average time for bringing the hearing back to normal has been sixteen days: the shortest case requiring four days and the longest requiring twenty-eight.

From an industrial point of view, hearing loss following a perforation of the drum is also difficult to classify. In 2 cases that I have seen, the initial loss was surprisingly little, affecting only the range from 1,024 to 8,192 D.V. The maximum for any one note did

ment of the internal viscera with a resultant predisposition to hemorrhage. The other, the one generally accepted, is that of gas emboli from the liberation of excess nitrogen in the blood.

The auditory phenomena that result from the episodes of faulty decompression can be divided into three groups.

1. Those in which transient auditory and labyrinthine symptoms that subside rapidly and leave no sequelae appear.

2. In certain instances the auditory and labyrinthine symptoms recede slowly and incompletely. There remain, then, a continued or intermittent vertigo, tinnitus, headache, and deafness characteristic of acoustic nerve involvement. Occasionally, a mild spontaneous nystagmus is seen. The Rinne test is positive. Caloric stimulation of the canals reveals a hypofunction. In these cases a gradual amelioration of all symptoms is the rule.

3. The most severe attack on decompression results in a sudden virulent labyrinthitis due to hemorrhage into the internal ear, producing a permanent impairment of either cochlear or vestibular function or both. Magnotti,¹⁴ in experimental work, found alterations in the spiral ganglion due to pressure changes; the cells were markedly distended.

Otitic lesions that occur as a result of a general disturbance happen only during decompression. Passow¹⁵ also corroborates the experimental studies of Alt and his coworkers of hemorrhage in the modiolus, in scala tympani and vestibuli, and in the semicircular canals.

The average otologist is rarely confronted with the acute condition resulting from decompression. "Sand hogs" all carry upon their persons a tag instructing that they be immediately taken to the medical lock if they reach a stage of unconsciousness. He sees, however, the end results of such trauma. He should be acquainted with the reactions due to faulty decompression, since auditory lesions are rarely predominant. It is only in the late stages, sometimes many months after the initial injury, that the otologist sees this type of patient. Therefore, from the industrial standpoint, the deafness due to caisson disease is a negligible incident. Of prime importance to the injured, to his employer, and to the State Board of Workmen's Compensation is the evaluation of the immediate and permanent disability to hearing. Of the several important phases of compressed air work which concern the practicing otologist, the

"blocked ear" is of the utmost importance. The blocked ear is an expression coined by the sand hog to designate any affliction to the drum, middle ear, or both. He attributes this to an inability to equalize the intra- and extratympanic pressure. The blocked ear is usually attendant upon compression in the air lock. The reason for this lies in the anatomy of the eustachian tube; its pharyngeal orifice is resilient, while its tympanic orifice is rigid. Increased air pressure, therefore, easily compresses the pharyngeal opening of the tube.

The main cause of the blocked ear is a certain definite degree of tubal occlusion. Disregarding any carelessness by the lock tender or defects in the pressure controls, a tubal occlusion is the primary factor in the production of a blocked ear in compressed air workers. It should be noted here that all seasoned sand hogs suffer from a chronic hypertrophy of the upper part of the respiratory mucosa. Nevertheless, the principle predisposing cause of a blocked ear is the "common cold." In our state there are specific instructions in our laws that workers in compressed air should abstain from going into "air" when they have a cold. Furthermore, those who have recovered from a coryza should not work in compressed air without medical advice from the physician assigned to the job.

Under normal conditions the sand hog, on being locked in, knows how to equalize the air pressure in his middle ear. He does this by "blowing"—self-inflation and repeated swallowing. The ability to autoinflate is lost when tubal obstruction is present. When this occurs, the lock tender must be immediately told so that he can ease up on the pressure valve. Unless this is done, a blocked ear will occur in the worker.

The man experiences immediate severe pain of a stabbing character in the affected ear and a sensation of fullness. Speech, though sounding hollow and muffled, is heard without difficulty. The term "blocked ear," while in common use among compressed air workers, should be adopted to describe this traumatic condition because it distinguishes it from certain inflammatory lesions that may present a like clinical and otoscopic picture. Furthermore, the term designates the cause, the various pathologic pictures, and the sequelae to be sought for in estimating compensability.

There are two degrees of blocked ear. In the first degree there are noted a marked retraction of the membrana tympani and intense hyperemia. It is distinguished from an acute catarrhal otitis media in that the red-

they resent the interruption in their work. Their sole interest is to get what they call the "passage" to their ear cleared up as soon as possible so that they can get back on the job. Many of them carry nose drops containing some mucosal astringent that will assure tubal patency before going into "air." Once the otologist has re-established tubal aeration, the veteran sand hog rarely reports for further treatment, even though changes may still be present in the drum and middle ear.

This is one of the reasons why it is difficult to evaluate the effect of compressed air work on the hearing of those steadily employed in this work. So-called "company doctors" cannot conduct such a survey, since an attempt at accurate hearing estimation prior to employment has at times been interpreted by union officials as a means to discriminate in the hiring of labor. The imperative need for such testing was obvious to Vail, who in 1929 suggested that "a wide and careful survey must be made to decide whether the percentage of deafness is uniformly high in persons working under compressed air."

After a thorough investigation of this question for over ten years, I submitted my findings and conclusions to the Section of Otolaryngology of The New York Academy of Medicine in May, 1940, which have appeared in *Laryngoscope*, 52: No. 1, 75 (Jan.) 1942.

As I have indicated, there is no definite characteristic of a hearing loss due to a blocked ear. Nor, because of existing conditions in the industry, is it possible to obtain an estimation of hearing acuity, beyond the crudest types of tests, prior to employment, so that all concerned in the evaluation of disability might have a permanent record against which there could be compared a possible future insult to hearing following an episode of blocked ear. And, finally, we must bear in mind that there are various makes of audiometers in use and that even two machines from the same manufacturer may give different curves in the same patient tested by the same person under the same conditions on the same day. Where, as frequently occurs in a contested case, the expert opinion of two otologists is presented to the court, the court for its own information directs an examination by one whom it alludes to as an "impartial" examiner.

Invariably, the hearing tests by all three, often taken on three different machines and under different conditions for sound-proofing, are far apart from one another. The court obviously has not the time to concern itself

with these minutiae, but from the standpoint of the injured, the employer, and the carrier they mean dollars and cents.

In blocked ear there rarely arises the question of complete hearing loss in altercations for compensation. Here, we otologists are called upon to determine the degree of partial hearing loss following this injury and, since the decision of the New York State Court of Appeals in the case of *Bednar vs. Ingersoll-Rand Co.*—where in effect it was decided that *even though no loss of earning power results from the hearing loss sustained*—partial compensation, according to the percentage of loss found, is rightfully due to the injured. The decibel loss is not considered in this decision; nor are the differences that we otologists know exist in the various kinds of audiometers taken into consideration by the referee.

At the present and up until now, I have taken the stand that the worker who, upon several tests at varying intervals up to at least six months, shows a closely identical audiometric loss on the same machine or a similar persistent curve of hearing loss on a like machine from the same manufacturer is the only one whose compensation can be computed on a percentage basis, even though in principle this is wrong. Therefore, I submit:

1. That the clinical picture of the blocked ear is an entity.

2. That the increase in air travel will add to this problem.

3. That the effect of compressed air work upon hearing needs intensive study and that labor organizations should be made aware of this problem.

4. That the estimation of compensability on the basis of percentage of hearing loss due to a blocked ear is as yet not possible and that the Courts, unwittingly, are making us use our pending experimental investigations to serve their practical need for the dole of awards.

5. That in the interim a disinterested board of examiners for hearing estimation be established to which all cases of blocked ear will be referred, wherewith all elements of a controversial nature will be reduced to a minimum.

6. That the otologic profession establish quickly a standard of compensability for a loss in hearing due to the trauma of a blocked ear. I suggest further that this should be extended so as to embrace eventually all losses of hearing function due to injury.

7. That we otologists under the present setup think twice before we contradict one another on a given case. Let us remember

not exceed 30 decibels. This observation is in accord with Vail's,¹² whose case report of a blocked ear with two perforations and active hemorrhage from the tympanic cavity showed similar findings.

Case Reports

First Degree.—E. B., aged 45, seen on September 22, 1938, stated that for the past three days he had had a cold in his head with the classic symptoms of acute coryza. On September 21 he entered the lock and immediately noticed a "blocking" of his right ear. On presenting himself for examination, he had only a slight pain in that ear and a stuffy sensation.

Otoscopic examination revealed a moderate retraction of the right drum and injection of the tympanic vessels. There was no perforation or hemorrhage. The left ear was normal. The mucous membrane of the nose and throat was acutely inflamed, and there was a copious, thin, watery discharge present in both nostrils.

Adrenalization and gentle inflation of the right eustachian tube resulted in an immediate improvement in the patient's condition. I further recommended that he should not be permitted to go into "air" until the condition was completely cleared. It was my opinion that the acute coryza was a contributing factor to the blocked ear. On September 28, 1938, the drum had returned to normal, and no further treatment was required.

Comment: This man was an old experienced sand hog. He would not permit any hearing test. He wanted his ears "cleared" so that he could go back to work. I questioned him, off the record, whether he would like to have his hearing tested and he said to me: "Doc, when you are in this kind of work you got to expect these things. I don't aim to claim compensation; fix me up so that I can get back to work." After much persuasion I was able to have him submit to an audiometer test, which showed, at the time of this particular insult, a 20-decibel loss in his right ear for the 512, 1,024 and 2,048 notes, while his left ear was normal.

Second Degree, Mild Form.—F. R., aged 31, was seen first on November 15, 1934. He stated that he had had a cold in his head for one week. On November 7 he went into compressed air for one hour. Upon emerging from the lock he noticed a bubbling sound in his right ear. He had no complaint until the morning of November 15, when he felt that his ear was clogged and that hearing was diminished.

Otoscopic examination showed a marked retraction of the right drum with an injection of the entire membrane. There was a slight hematoma in the anteroinferior quadrant of the drum. The eustachian tube was completely occluded, but, after shrinking and repeated inflation, patency was re-established. Following this

procedure, immediate improvement was obtained.

Audiometric estimation of hearing revealed only a 10-decibel loss for the 256 and 512 octaves in the affected ear. My opinion was that I did not believe that the compressed air entirely resulted in his condition, since of itself it could not produce a tubal occlusion. I stated that the contributing cause to the blocked ear was the end result of the coryza from which he still suffered.

Moderate Form.—T. L., aged 40, came under observation on November 24, 1937. On the nineteenth of that month, upon coming out of an air lock, he got the "bends." Since that time he had noticed a stuffiness in both ears, a slight diminution in hearing, and some tinnitus.

Examination revealed both drums to be retracted and reddened. There were punctate hemorrhages in both eardrums, and in the right ear there was an intratympanic hemorrhage. On that date the loss of hearing in the right ear, in terms of percentage loss required by the State Labor Department, was 33 $\frac{1}{3}$ per cent, while in the left ear the loss was within normal limits. On December 13, following diathermy and inflation, the hearing in the right ear returned to normal, the intratympanic hemorrhage had completely disappeared, and all evidences of inflammatory reaction had abated.

Severe Form.—P. G., aged 46, was first seen September 23, 1937. Following a cold of six days' duration, he entered the air lock and stated that he soon developed severe soreness in the right ear. He stated that he had been working in compressed air on and off for twenty-four years.

Otoscopically there was a marked retraction of the right drum. In the region of the postero-superior quadrant, an irregular, jagged perforation was evident. This was superimposed upon a markedly scarified tympanic membrane. In addition, there was a large hemorrhagic exudate definitely circumscribed in the antero-inferior quadrant.

It is noteworthy that while no complaint referable to the left ear was advanced, audiometric estimation of hearing showed a 44 per cent loss of hearing in the left ear as compared with a 41 $\frac{1}{4}$ per cent loss in the right ear, which suffered the trauma.

Evaluation of Disability

In this type of industrial trauma the aurist finds himself in a peculiar position when called upon for expert testimony. I have found that it is not the injury itself but the length of time that an individual has been employed in compressed air work. This type of employment pays far above the average, and the old hands take a blocked ear as a matter of course. When they are compelled to go to an otologist

on the job. Dr. Graham Rogers, at that time listed as a medical factory inspector, switched to tunnel work. His early experience in deep-sea diving served him well. He is still, after 34 years, in the Department handling occupational disease cases.

After extensive study not only by our own men but in collaboration with all those engaged in this type of work, including engineers and surgeons, there was promulgated in May, 1922, the Industrial Code Rules relating to work in compressed air (tunnels and caissons) and general tunnel construction. This is the Magna Charta of the so-called sand hogs and muckers. The rules are comprehensive and cover every aspect of this work to safeguard the workers.

Since the promulgation of these rules, the well-known vehicular tunnels—the Holland, Lincoln, several subway tunnels and, last, the Queens Midtown Tunnel—have been constructed without a single death due to caisson disease. During the boring of this last project, the U. S. Bureau of Mines and the U. S. Public Health made studies. One of the results is that in the contract specifications for the new Battery-Brooklyn Tunnel, longest yet to be constructed, there is the compulsory installation of apparatus for alleviation of ear block. This is known as an oxyhelium containing a mixture of 80 per cent helium and 20 per cent oxygen.

These specifications are an outcome of the work of Lovelace, Mayo, and Booth announced in 1939: *The Inhalation of Helium for Alleviation or Prevention of Aero-Otitis Media or Blocked Ear*. It is more specifically due to the experiments by Crosson, Jones, and Sayres, surgeons in the U. S. Public Health Service. They found that 82 of 84 cases of so-called workers "locked-out" were able to continue into compressed air after a few minutes treatment. They also mention "sinus block." This report was published in *Public Health Reports*, August, 1940, and is entitled "Helium Oxygen Inhalations for Ear Block in Compressed Air Workers." If the regulations of our Industrial Hygiene Division in regard to infections of the upper part of the respiratory tract are put into the Industrial Code, which means strict enforcement, the blocked ear or aero-otitis media will surely be on the way out.

Now we come to the recommendations made by Dr. Almour. These are not peculiar to caisson workers. The same, for example, can be made for workers in noisy trades, such as boilermakers. By the way, a special bulletin on *Effect of Noise on Hearing of Industrial Workers*

was prepared under the present Industrial Commissioner, Frieda Miller, and published in September, 1930.

In 1940 it was my privilege to discuss a report of a legislative commission on hearing with the Industrial Board. This report was prepared by members of your section: Dr. Pratt, Dr. Fowler, and Dr. Hambrook. Mention of the name of your secretary, Dr. C. Stewart Nash, was made in the report.

Five recommendations were made. Four of these were favorably commented on by the Industrial Board and forwarded to the Industrial Commissioner. A table by Dr. Fowler for computing percentage disability in reference to the ear was not adopted at this time. I regret now to state that nothing definite has come of these recommendations. Two of them in my mind are essential—namely, the appointment of a qualified otologist and the use of Standard Audiometers in a sound-proof room.

Up to 1936 no compensation was allowed unless there was total loss of hearing in one or both ears. Sixty weeks was awarded for total deafness in one ear and 150 weeks for total deafness in both ears. At present there is allowance for partial loss of hearing based on percentage loss found with an audiometer. Due to this improvement, the number of ear cases, of course, increased. They are sufficient in number to warrant the full-time service of an otologist. We have two eye specialists, and the work in this department meets with satisfaction on all sides. There is no adequate reason why the same cannot be said for an ear department. This is a new field for workmen's compensation, comparatively a virgin field in need of extensive ploughing. We feel there are grounds for just criticism in many phases of our work. There must be cooperation.

In closing may I suggest and urge that this section in some way register a favorable comment on the appointment of a qualified otologist and the setting up of a soundproof room and installation of properly calibrated audiometers approved by the Committee on Physical Therapy of the American Medical Association. This could be done simply by a letter from your secretary to the Industrial Commissioner or to the Director of Workmen's Compensation, Mr. Ralph Boyer, who is eager to aid this work, is alert to the necessity of it, but is apparently hampered by some budget deficiency. Let me say, here, that this paper is responsible for at least one forward step—namely, a special index in our files for nose, throat, and ear cases.

According to a survey made of thirty large American cities, including about one-quarter of our population, marriage licenses issued up to

and including November, 1941, have exceeded those of the corresponding period of 1940 by 8.8 per cent.—*Bull. Metropolitan Life Insurance Co.*

when we are called on for expert testimony that many factors other than our own opinion and observations enter into the final disposition of a case. Courts are not concerned with the medical aspects of a case beyond their desire to determine cause and effect, prognosis as to permanency of the injury, and the estimation of damage from the monetary angle. Here, I submit that a blocked ear per se in the rarest of instances causes a permanent, debilitating and, in my opinion, compensable loss in hearing.

8. That I reiterate Vail's demand for a survey of hearing in compressed air workers. I go further in advocating legislative measures that will compel these artisans to have an accurate estimation of their hearing made before employment so that what we otologists are vitally combating—namely, the increase in the number of the deafened—will be materially furthered.

71 East 80th Street

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Discussion

Dr. James W. Babcock, *New York City*—Dr. Almour's comprehensive and interesting paper on a subject in which he has had more experience than most of us has been a pleasure to hear.

My understanding is that the ear conditions produced by going under pressure, although unpleasant enough, rarely produce permanent impairment, although as he pointed out we have no accurate knowledge of the percentage of impaired hearing among experienced workers under

pressure as a whole. But he mentioned at least 1 worker who had a loss of 40 decibels, although he did not complain of a hearing impairment. Probably they all attain some loss after long experience.

The most serious results come from rapid decompression. Those in my experience are due to inner-ear lesions and hearing; while it may improve, it is rarely restored to normal.

The increasing use of flying is yielding many so-called "blocked" ears from rapid descent. Strangely enough, the victims are usually passengers. It seems rare in pilots for some inexplicable reason.

The use of helium as described by W. H. Requarth in the *J.A.M.A.*, April 19, 1941, is interesting, but I have had no personal experience with it.

Dr. William J. Jackson, *New York City*—I have read Dr. Almour's paper with keen interest. Its presentation to you was clear, concise, and thorough. The blocked ear is an entity. Its distinction from the ear condition induced by a true case of the "bends" or caisson disease is a real one. In fact there was not a single caisson disease ear case during the recent construction of the Queens Midtown Tunnel according to the surgeon-in-charge, Dr. Grover Emery. The former happens on entrance to the air lock and the latter on too hasty emergence from the air lock. The former affects the conductive mechanism, while the latter affects the perceptive mechanism of the ear.

It was my pleasure to hear Dr. Almour read his paper on this topic in New York, in May, 1940. It was given somewhat more in detail. Dr. Almour is no tyro in this field. He was the author of a pamphlet of 29 pages entitled, *The Interpretation of Otological Findings in Cases of Industrial Trauma*. This was published in 1924 by the New York State Labor Department. His description of the "blocked ear" is graphic, if not classic. Some cases do result in impairment of hearing. This same condition was described in detail by Armstrong and Heim in the *J.A.M.A.*, August 7, 1937. Their study was confined to aircraft pilots, and they termed the condition "aero-otitis media."

I have been invited here as an otologist representing the New York State Workmen's Compensation Division. As we see chiefly the end results, I do not feel competent to discuss these cases in their acute form and only in small measure from a clinical point of view.

Around 1903 to 1906 the so-called McAdoo Tunnel, the tunnels of the Pennsylvania Railroad under the Hudson and East rivers, and the early subway tunnels were bored. The occurrence of deaths due to caisson disease and explosions induced a special legislative act for appointment of a tunnel inspector in the State Labor Department in 1907. The appointee, a truly able inspector, Mr. Gus Werner, is still

waters that cannot be treated with equal benefit by the various spas in England.

Another instance indicating the importance placed on spas by the authorities comes from the German news flashes as radioed to this country. Under the date of February 15, 1941, a note regarding a special five-year plan for the rejuvenation and reorganization of the Carlsbad Spa was reported. This states that the plan includes sanitary improvements, modernization of the buildings, and the development of a research institute to study the waters. It also suggests that new hotels and other accommodations for visitors will be constructed. In addition, special institutions for study of mineral waters and moors are planned for Franzensbad and Marienbad.

All of these reports from the warring countries abroad stress emphatically the place and importance of the mineral waters and the great value of their proper utilization.

Now we may turn to our own state and give some attention to the facilities that are available in our own spas for the care and treatment of patients. There are six institutions in our state where mineral waters are utilized in the treatment of medical conditions. It is not my purpose today to list each place individually or to discuss in detail the therapeutic indications for the same. It is my desire, however, to point out that these places do exist and to give you some indication of the possibilities for the care of people in them.

There are in these six institutions approximately as many different types of mineral waters. While Sharon Springs, Richfield Springs, and Clifton Springs all utilize a sulfur water in their treatment, it differs to some extent in each of the three places. Alden and Glen Springs have strong saline brines which must be diluted before they can be used for bathing purposes. Saratoga Springs has the naturally carbonated saline-alkaline waters. You can see that with this variety of natural facilities it is possible to select places where the program of treatment can be adapted to the patient's medical condition.

The presence of a healing water alone does not make a spa. Only when facilities are provided for its proper application and where physicians have made a study of the water to see that it is utilized in a regulated program can we say that a spa exists. You will find in the spas of New York State a variation both from the standpoint of physical equipment and medical control. At Glen Springs all patients are strictly under the care of a physician who outlines the program. At

TABLE 1.—SUMMARY OF THE ACCOMMODATIONS AT SPAS IN NEW YORK STATE WHICH ARE AVAILABLE FOR CARE OF PATIENTS

Place	Hotel	Pension with Meals	Rooming House Without Meals	Total
Alden	105			105
Clifton Springs	275	50		325
Glen Springs	150	25		175
Richfield Springs	1,085	35		1,120
Saratoga Springs	2,865	241	215	3,321
Sharon Springs	1,120	181	431	1,732
Total	5,600	532	646	6,778
Number of Guests				
Alden	160			160
Clifton Springs	380 (68 hospital beds)	75		455
Glen Springs	225	40		265
Richfield Springs	1,630	55		1,685
Saratoga Springs	4,300	360	325	4,985
Sharon Springs	1,680	270	645	2,595
Total	8,375	800	970	10,145

Clifton Springs an able staff of physicians is available to care for the patients. In the other places, the patients are advised to consult with one of the physicians in practice in the community, although this matter has not in any of them been made 100 per cent compulsory. At Saratoga Springs the State in its development of the spa has provided for medical direction of the work, as well as for the initiation of a program of study and investigation. In addition to full-time administrative medical direction, the physicians in practice constitute the voluntary medical staff of the spa and assist in the care of the welfare patients. Both Sharon Springs and Richfield Springs have medical directors who, in addition to their regular private practice, advise the management in problems of medical administration.

This gives you a quick survey of the spas of New York State, which, with the possible exception of California, has a greater variety of mineral waters than any state in the Union. New York State is without a doubt the leader in the development of its mineral water resources for therapeutic use.

In case of an emergency it is important to know the possibilities for the proper housing and care of patients. A list of the available accommodations has been assembled from the printed material of the different spas and from the *Red Book* of the American Hotel Association. Table 1 lists this information and shows the number of rooms available in hotels containing thirty or more rooms each; the number in pensions, which provide meals, containing thirty rooms or less; and, from

THE ROLE OF SPAS IN MEDICAL PREPAREDNESS

A Survey of the Accommodations Available at the Six Spas in New York State

WALTER S. McCLELLAN, M.D., Saratoga Springs, New York

THE stress on preparedness emphasizes the importance of the information made available in a recent survey of the facilities and accommodations for the care of patients in the spas of New York State. This survey revealed that it is possible to care for at least 10,000 patients at one time, approximately one-half of whom can be accommodated at the Saratoga Spa. The data obtained from this survey are presented in the present communication.

Preparedness is before us continually day and night. We are asked to prepare for the possibility of war and for the support of others who are at war, prepare our men for service in the army, and prepare ourselves for any national emergency. Parran¹ in an address in 1940 presented this problem dramatically. He discussed the requisites for building up national strength and stressed the fact that even though every attention is given to the building up of large reserves of raw material, the construction of a large amount of mechanized equipment for army use, the stocking of the same with ammunition, and the building of ships—all of this would be of little value unless the man power of America were sufficiently fit, unless they were free from preventable disease, and unless their moral and mental stamina were able to withstand the increased stress and strain of the emergency. He emphasized that all of these features of physical fitness are important in the days of peace when everything is calm but that they are urgent now that the people must be "physically tough, mentally strong, and morally sound."

With this challenge before the American people to do all in their power to maintain physical fitness as one of the important phases of medical preparedness, it is my purpose to consider for a short time the part that our natural resources, as utilized in the spas of this country, may play in this direction. A glance at the reports from Europe indicates that in all of the war-torn countries the importance of the spa is recognized and that every effort is

made to utilize these resources in the face of their tremendous emergencies.

Schnelle² has recently discussed the types of baths available in the German spas for the treatment of joint injuries and infections such as arise frequently from war injuries. He points out that the mineral baths with low mineral content are the mildest stimulus to healing. Warm brine baths represent the second grade of stimulation. Then the use of warm sulfur waters is a third step, while the moor and mud baths provide the greatest stimulus in treatment. In his discussion he touched particularly on the use of the underwater treatment in various forms of articular stiffening and in some forms of paralysis. He also recommended the use of carbon dioxide gas for poorly healing wounds of the lower extremities, decubital ulcers, and burns. In this treatment he places the extremities in a box where the air is warmed with incandescent lamps and then introduces the carbon dioxide into the box under high pressure. He states that this cools the air and that the carbon dioxide in the chamber acts on the wounded tissues. He says that this is not of value in the treatment of varicose ulcers.

It is reported that the German Army Staff have a regular program developed where they send the soldiers from line duty for a furlough period at different spas. This program is used as a conditioning period to keep their fighting men in every way physically fit. Their regular and extensive application of spa treatment in World War I is a matter of record.

In France, as is indicated by the report of Mougeot,³ they are utilizing the spas in the treatment of many conditions resulting from war. He stresses particularly the value of the carbon dioxide baths at Royat in the treatment of the unstable heart and the heart that is forced by exertion beyond its reserve. Villaret⁴ has recently discussed the organization and plan that has been developed by the Commission on Mineral Waters in France to care for the war wounded in the various hydro-mineral and climatic stations.

In a recent news note,⁵ it is evident that the British spas are being utilized to a greater extent by those suffering from chronic conditions. They state that there is not a single complaint that can be relieved by Continental

¹Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 29, 1941.

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RECENT ADVANCES IN BACILLARY DYSENTERY*

JOSEPH FELSEN, M.D., New York City

RENEWED interest in bacillary dysentery is of particular significance at this time because the disease has always been a recognized major military hazard. A feeling of almost complete apathy which existed in 1932 has been dispelled by epidemiologic, laboratory, and clinical studies during the past eight years. With this increasing knowledge there has been a rather astounding rise in the reported incidence of bacillary dysentery in the United States from 625 cases in 1933 to 19,152 in 1940. At the same time there occurred a decline in the unclassified diarrheas from 17,042 in 1933 to 1,484 in 1940.¹

The obvious inference is that when infectious diarrheas are carefully investigated, the majority appear to be bacillary dysentery. The present communication is concerned with the more recent advances in our knowledge of this disease (Table 1).

1. *Bacteriologic Types.*—(a) *The Toxicity of B. alcalescens.* The time-honored classification into the nonmannite fermenters (Shiga, Schmitz) and mannite fermenters (Flexner V-W-X-Y-Z, Sonne-Duval, Newcastle, Alkalescens) bears no consistent relationship to the degree of pathogenicity. Since 1933 we have noted the increasing severity of Sonne-Duval infections, originally regarded as comparatively innocuous. Numerous instances of sudden deaths have been reported, particularly in children. *B. alcalescens*, described by Andrewes in 1918 as of doubtful pathogenicity, has been quite definitely proved to be pathogenic. Most of the reports concern urinary-tract infections but more recently they include intestinal infections, particularly in children. To these we have added 3 cases of acute bacillary dysentery in adults, 1 case of distal (regional) ileitis and 7 cases of chronic ulcerative colitis due to *B. alcalescens*.² Gilbert and Coleman³ report that 1 per cent of all fecal specimens cultured at the New York State Department of Health reveal *B. alcalescens*. Similarly, fecal examinations at the New York City Department of

Health in recent years have frequently shown the same organism. These specimens were obviously submitted because of the suspected presence of intestinal infection. In our control series of 4,770 cultures at the Bronx Hospital from April, 1937, to October, 1940, covering the monthly fecal cultures of food-handlers and nursing and medical personnel, only 3 instances of positive *B. alcalescens* cultures were encountered. All occurred in nurses within a period of a few weeks when a rising incidence of similar infections appeared in New York City, judging from the increased number of cultures received by us from the Department of Health through the kind cooperation of Dr. Ralph Muckenfuss.

Since our routine fecal cultures on hospital personnel represent many repeated examinations on the same individuals over a period of years, as well as on newcomers, the absence of *B. alcalescens* from the intestines of healthy individuals is significant. As recently pointed out in the Flexner and Sonne-Duval infections, there are undoubtedly some carriers but in most instances either the presence of active disease can be demonstrated by sigmoidoscopy or a history may be elicited of previous dysenteric symptoms. In other cases additional evidence may be obtained by absorption tests. Neter⁴ has shown that *B. alcalescens* contains two antigenic fractions, one identical with the Flexner organism, the other type specific. In a recent study of 35 strains of *B. alcalescens* we found that the M.L.D. for white mice averaged 0.05 cc. of an eighteen-hour broth culture. While considerable variation in toxicity was noted, a few strains being nonpathogenic, some exhibited marked constancy over a period of many months without being enhanced by animal passage. Generally speaking, our *alcalescens* strains were one-fifth as toxic as Flexner 21 used in our previous experiments on active and passive prophylactic immunization.

2. *New Clinical Forms.*—Seven new clinical types of the disease have been reported since 1933. It is of more than passing interest that the typical fulminating cases of acute bacillary dysentery described by Hippocrates in his "Epidemion" are the exception rather than the rule in modern medical practice. Even in our own time, Shiga dysentery

* Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 29, 1941.

² The studies reported in this paper were carried out under a grant-in-aid from the S. A. Schonbrunn Research Fund.

³ Director of Laboratories and Research, the Bronx Hospital, New York City.

the records of Sharon Springs and Saratoga, some indication of the rooming facilities that are available without meals.

The figures for the number of guests which can be accommodated have been estimated from the reported number of rooms by considering that 50 per cent of the rooms are double rooms. Hotel managers advise that this is a conservative estimate and say that in many hotels 75 per cent of the rooms can be utilized for two people.

From Table 1 it can be seen that accommodations for patients in these places vary from approximately 160 at Alden to approximately 5,000 at Saratoga Springs. The survey reveals that over 10,000 patients can be accommodated at the six spas in the State of New York with the facilities available at the present time. These facilities, of course, differ in the nature and luxuries of the hotel or pension, but there are accommodations to care for the most modest, as well as the most fastidious, at the various spas. In Clifton Springs the hospital-sanitarium arrangement offers the most complete nursing and supervising care of any of the institutions.

The type of treatment available at the spa is particularly fitted to the needs of many patients, as is evident in the care of the "shell-shocked" soldier or the "bomb-shocked" civilian who, at the spas, will benefit from the hydrotherapeutic program combined with competent medical care. Also, there is often great need for a convalescent center to which the patients may be sent from the hospital for building up after their acute emergency has been treated. The spas offer a real solution for this problem.

The facilities available in the spas of New York State offer a real possibility for use in the face of any national emergency. Surveys are being made of the number of physicians available for service, of the nursing personnel, and of the hospitals of our country. We recognize that the use of our hospitals must also continue for the civilian population. In our spas we have accommodations for the care of military or civilian patients in any emergency, which are not utilized generally throughout the entire year. It is true that a certain proportion of the facilities listed above are not suitable for year-round operation. In some, considerable alterations would be necessary. However, there are many available which could be utilized 100 per cent for the care and treatment of patients sent either from the army or from the civilian population in the face of actual war. These facilities

should not be neglected in any survey for medical preparedness.

Summary

Some data regarding the facilities available in the spas of New York State are presented. It is evident that there are extensive accommodations at hand for the care of many patients. The spas offer also the utilization of natural resources that have not been widely applied even in peace times in this country.

From the interest shown in the spas of Europe, it is clear that they have a place in the care and treatment of soldiers on furlough, as well as of war casualties.

Adequate medical personnel who could direct this program is already available at nearly all the spas.

Medical preparedness does not alone pertain to the health or treatment of disease in our colleagues in military service. It must include a consideration of what can be done for our entire population living and working under increased conditions of speed and stress. Particularly, it will apply to the worker in industry, transportation, or other lines, or to the executive in charge of these branches. It is important to keep them all in good health—yes, just as important as it is to have able-bodied soldiers. The spas of the State of New York can contribute in real measure to medical preparedness.

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Discussion

Dr. Allen Holmes, *Penn Yan, New York*—May I thank Dr. McClellan for this timely presentation. Whether we know it or not, war is here. The spas are in a position to do a useful service. There are many chronic cases in the hospitals that could with benefit be transferred to the various resorts. This would relieve hospital congestion for more acute cases. There are many men now in service. Some of these, from time to time, could be benefited or restored to usefulness by a stay at one of the spas. Saratoga has unusual and extensive facilities. During the last war, the Jackson Health Resort was taken over and used by the government. However, insofar as is possible, I feel that the present personnel of the spas should be utilized with as little government complication as possible.

in chronic cases, the organisms can often be recovered by aspiration from the crypts of Lieberkühn where they retire for self-protection from the inimical flora of the intestinal tract. The sigmoidoscopic crypt aspiration-spray culture method is particularly useful for their recovery.³ We now use Endo and desoxycholate citrate agar plates routinely, supplemented wherever necessary by other differential media. Desoxycholate citrate agar inhibits the growth of some dysentery strains which grow freely on Endo agar, particularly after exposure to sulfonamide drugs. This may be modified, however, by the use of para-amino-benzoic acid,² which acts as a sulfonamide inhibitor. Thick seedings of fecal material are best made on the desoxycholate medium but thin inoculations on Endo agar give better results if the material cultured is obtained by aspiration of a clean mucosa which eliminates many nonpathogens that often prove so troublesome in fecal cultures. SS agar is also efficacious.

The survival of *B. dysenteriae* in the presence of *B. coli* "in vitro" is of some importance in understanding the variability of the period during which the former can be recovered from the intestine in acute bacillary dysentery.* In some cases the organisms disappear in a few days while in others they persist for months. In testing 10 strains of *B. coli* for their inhibitory or overgrowth effects, we found that some strains of *B. coli* had no restraining influence, *B. dysenteriae* Flexner being recovered without difficulty for at least a week from incubated broth culture mixtures of approximately 95 per cent of the former to 5 per cent of the latter. Conversely, some *B. coli* strains constituting only 5 per cent completely prevented the recovery after twenty-four hours of *B. dysenteriae* Flexner which made up approximately 95 per cent of the suspension. This "blotting out" phenomenon suggests marked differences among *B. coli* strains on the survival of *B. dysenteriae* which may account for the difficulty or ease of recovery from the intestinal tract. Phage effects and pH changes appear to play no part in the experiment cited. Therapeutic applications are being studied.

4. *The Use of Alcoholic Antigens for the Determination of Agglutinins.*¹⁰—In our earlier work it was deemed best to use eighteen-hour viable broth cultures for the quantitative estimation of serum agglutinins. In order to simplify and expedite this procedure for

military use under field service conditions, parallel tests were set up using eighteen-hour viable broth cultures, formalinized, acetone- and alcohol-killed antigens. The serums of 300 patients were tested including approximately one-fourth with diagnostic titers. While comparable results were obtained with all four antigens the alcoholic antigen appeared to be most consistent and stable, with the acetone antigen a close second. This stability has remained unimpaired for eighteen months at ice-box temperature. Our routine serologic setup now includes alcoholic antigens of *B. dysenteriae* Flexner V-W-X-Y-Z, Sonne-Duval, Newcastle, Alkaescens, Shiga, and Schmitz. We wish to stress again the importance of a rising agglutination titer. A single diagnostic titer without confirmatory clinical, bacteriologic, and sigmoidoscopic evidence is of limited value, since it may be the result of a previous dysentery infection unrelated to the present condition.

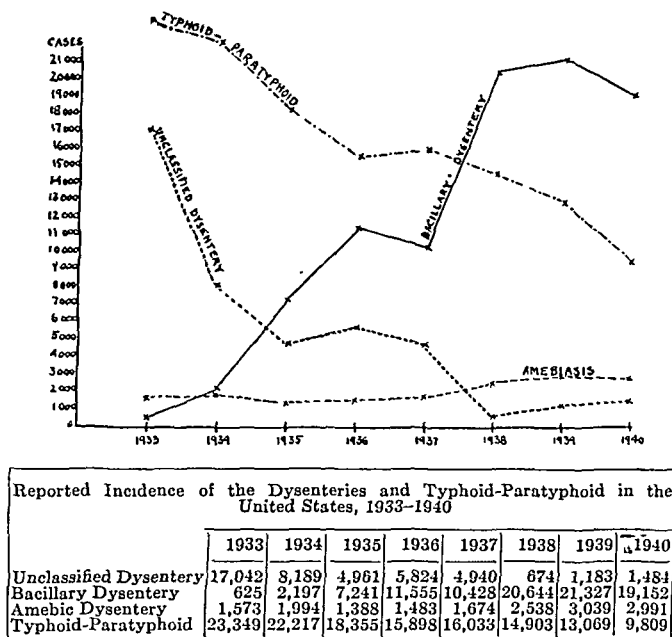
5. *The Effect of Sulfonamide Drugs on the Growth of B. dysenteriae "in vitro."*—Saturated solutions in nutrient broth of sulfanilamide, sulfathiazole, sulfapyridine, neoprontosil, and sulfanilylguanidine failed to prevent completely the growth of *B. dysenteriae* Flexner (V-W-X-Y-Z), Sonne-Duval, Newcastle, Alkaescens, Shiga, and Schmitz after ten days' incubation. This limited bacteriostatic action of the sulfonamide drugs "in vitro" has been attributed by some investigators to the presence of peptone in the culture medium. The sulfonamide drugs appear to interfere with the nutritional requirements of susceptible bacteria, according to Lockwood and Lynch.¹¹ In the presence of sufficient peptone this bacteriostatic action is largely nullified. We have, however, also noted the same poor bacteriostatic action of the five drugs mentioned in saline suspensions of various *B. dysenteriae* strains. The most effective drug was sulfanilamide. The most resistant organisms were *B. shigae* and *B. alkaescens*. "In vivo" experiments seemed to parallel those in the test tube. Intra-peritoneal inoculations of eighteen-hour broth cultures of *B. alkaescens* #9 saturated with sulfonamide drugs failed to protect mice in almost all instances against 10 M.L.D. The same failure to protect also occurred with saline suspensions of *B. alkaescens* #9 saturated with sulfonamide drugs.

The following points may be of interest in evaluating the usefulness of the sulfonamide drugs: (1) We have noted hemorrhagic necrosis of the colon in patients treated for

* I wish to acknowledge the assistance of Miss Esther Levendron in the experimental studies.

TABLE 1

When cases of "diarrhea, dysentery, and enteritis" are studied, the majority appear to be bacillary dysentery.



appears to have been largely displaced by Flexner dysentery in most parts of the world, including the Orient. The clinical severity of the disease no longer depends on whether or not it is a Shiga infection. Many Sonne-Duval infections are most virulent while some Shiga dysenteries are relatively mild. Do these represent disease adaptations to a changed environment and climate? There is some evidence pointing in this direction.

These variations can hardly be explained on the basis of a natural or acquired immunity for the United States has presented an almost virgin field for the spread of bacillary dysentery. Climate is undoubtedly a factor, for aside from the general hygienic and sanitary factors operative in subtropical or tropical regions, the cooler plateaus are relatively free of the disease and patients recover more quickly when moved to these areas. Yet, bacillary dysentery has neither seasonal nor zonal limitations. Some of the worst epidemics have occurred in winter and Byrd's antarctic expedition was afflicted with Flexner dysentery. Thus, bacillary dysentery is often a paradoxical disease, insidious in onset and protean in its clinical manifestations. The asymptomatic, afebrile, and constipated types are generally discovered during

the course of epidemiologic surveys. These patients are not healthy carriers because they exhibit the characteristic progression of intestinal pathology, rising agglutination titers, and final disappearance of positive cultures. The appendicular, meningitic,⁵ pneumonic,⁶ and agranulocytoid⁷ types refer essentially to the confusing pictures seen at the onset of the disease. Unless these atypical forms are recognized they constitute potential sources of contagion. The clinical pictures are well defined and theoretically represent the effects of an admixture of at least two toxins. The enteric toxin is present from the onset but it does not dominate the clinical picture until the end of approximately twenty-four hours.

3. *The Laboratory Diagnosis of Acute Bacillary Dysentery.*—(a) *The survival of B. dysenteriae in the presence of B. coli.* We have previously stressed the diagnostic tetrad of positive fecal culture, rising agglutinin titer, positive phage and purulent character of the intestinal exudate. In the average case, particularly during the first week of the disease, the organism may be readily recovered from the mucopurulent material in the feces. In many instances, however, the dysentery organism has a very transitory existence, disappearing in two or three days. In these, as

(1) Immune rabbit serums protected white mice against 10 M.L.D. of *B. dysenteriae* Flexner for at least five days. No such protection was afforded if the serum was injected after the organisms. (2) The parenteral injection of phenolized vaccine afforded considerable protection against subsequent 10 M.L.D. of *B. dysenteriae* Flexner. The mortality of vaccinated mice was 20 per cent as against 90 per cent in the nonvaccinated group. (3) Type specificity and effective immunization appear to go hand in hand. (4) Rapid and effective active immunization against monovalent strains can be produced by the use of alcoholic antigens which are easily prepared. (5) Prophylactic or therapeutic serum can be quickly prepared in rabbits or man by the same method. (6) Active or passive prophylactic immunization has been successful in all types except *B. alkalescens* where the results thus far have been less satisfactory. (7) The use of polyvalent TPD (typhoid-paratyphoid-Flexner, V-W-X-Y-Z) alcoholic antigens in the proportions of 2:2:6 have proved equally effective against all three infections.

While supportive clinical data on the effectiveness of prophylactic immunization by vaccines and serum is at hand,¹⁶⁻²¹ the final evaluation of this method awaits large-scale field tests. It may prove particularly valuable in military work and has already been applied by Prigge in Germany.

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INFANT MORTALITY IN ENGLAND AND GERMANY

The death rate of German babies in 1940 was still much higher than the infant mortality rate in England, comparing the figures for 126 English large towns with German towns having a population of over 100,000. The latter statistics, from the Reich's *Journal of Public Health*, which have now become available, give an infantile mortality rate during 1940 of 63 per one

thousand as against the English rate of 51. The German rate is the highest for the years 1936-40, for each of which it has been at least 10 per thousand higher than the English rate. In no one year since the Nazis came into power has the number of the *Herrenvolk's* surviving infants approached the English total.—*Medical Record*

TAIN'T CRICKET

"November 7th. Comes via Chamberlain the tale of the patient so earnestly sold by Bill Arnold's allergic survey which showed her sensitive to eggs that she returned the hen the grocer sent asking for a rooster instead."—*Random Thoughts of the Secretary, The Journal of the Arkansas Medical Society*

AN ITEMIZED ACCOUNT

Nutritionists have long insisted upon informative labeling of food products. Here's an example of the nth degree of informative labeling displayed in a restaurant: "Hard boiled egg—1 cent; wear and tear on chicken—3 cents; rooster's fee—1 cent; total cost—5 cents."—*Credit Lines, Am. Pub. Health*

infections not involving the intestinal tract. This possibility must be considered in treating an intestine which is already ulcerated. (2) Acute bacillary dysentery is essentially a self-limited disease, running its course in three to ten days without specific treatment. Babies often die from dehydration and acidosis rather than from toxemia due to the dysenteric infection. Supportive therapy alone, such as the use of nonspecific human serum or lyophile plasma, intravenous dextrose or Ringer's solution, will often enable these little patients to survive the critical first two or three days. (3) The absorption of sulfonamide drugs through denuded areas of mucosa is more rapid than through intact mucosa. The danger of toxic systemic manifestations is therefore correspondingly greater. (4) *B. dysenteriae* survive high concentrations of the sulfonamide drugs which have no effect on ulcers already produced. (5) "Inhibitors" which nullify the bacteriostatic action of the sulfonamide drugs are present in autolyzed tissue and culture filtrates of resistant bacteria. This explains the unsatisfactory action of these drugs in the presence of pus, and the intestinal exudate in bacillary dysentery is characteristically purulent. (6) Attention is directed to the bactericidal action against *B. dysenteriae* of gastric juice with pH of 5.5 to 4.5 or less.¹² The oral use of dilute hydrochloric acid or glutamic acid hydrochloride (acidulin) as a prophylactic is suggested. (7) We have not seen a case of chronic bacillary dysentery (chronic ulcerative colitis, distal ileitis) cured by the sulfonamide drugs.

(6) *The Pathogenesis of Chronic Ulcerative Colitis and Chronic Distal Ileitis.*—Confirmatory data regarding the common pathogenesis of bacillary dysentery, chronic ulcerative colitis, and distal (regional) ileitis has been received from many sources.*¹³

Much of the confusion surrounding these diseases has been due to the disinclination on the part of clinicians to make careful epidemiologic and sigmoidoscopic cultural studies. It is most important to secure data on the first attack. In a surprising number of instances this may be traced directly to a proved dysentery outbreak. The first attack is followed by a characteristic series of recur-

rences increasing in frequency and severity. The fully established disease of chronic ulcerative colitis or ileitis is consummated in about one year. The difficulties of recovering *B. dysenteriae* at this late date have been enumerated. The following table representing 289 cases of chronic distal ileitis, ulcerative colitis, and combined ileo-colitis demonstrates the value of careful bacteriologic investigation. It reveals an incidence of 15.0, 17.7, and 24.0 per cent, respectively, of positive dysentery cultures as compared with a control group of 0.08 per cent in the same area (Table 2).

TABLE 2.—POSITIVE CULTURES IN CHRONIC DISTAL ILEITIS, CHRONIC ULCERATIVE COLITIS AND COMBINED FORMS (289 CASES)

	Cases	Positive Cultures	Per Cent
Chronic distal ileitis	33	5	15.0
Chronic ulcerative colitis	231	41	17.7
Combined ileitis and colitis	25	6	24.0
Total	289	52	18.0

Failure to isolate *B. dysenteriae* or to elicit an epidemiologic history in every case is not significant. The patient may have forgotten the details or the initial attack may have been mild. Our experience in recent years confirms the detailed report of 1936 in which we presented evidence of the common pathogenesis of bacillary dysentery, chronic ulcerative colitis, and distal ileitis.¹⁴ We have succeeded in tracing these diseases in individual, previously healthy, patients from the initial stage of acute bacillary dysentery to the final chronic phase. They represent the perpetuation of stage 3 of acute bacillary dysentery (stage 1—punctate follicular hyperplasia; stage 2—punctate follicular necrosis; stage 3—discrete and confluent ulceration with superimposed nonspecific infection). The practical implication is that the ideal treatment of chronic ulcerative colitis and distal (regional) ileitis is the prevention of bacillary dysentery. The latter is completely preventable and its eradication should be followed by the disappearance of the two chronic forms of the disease.

7. *Prophylactic Immunization Against Bacillary Dysentery.*—There is considerable clinical evidence of an acquired immunity in bacillary dysentery.¹⁵ The subject of prophylactic immunization is of particular importance from a military point of view. Our experimental work has been concerned chiefly with the use of serums and parenteral vaccines. The details have been reported elsewhere and may be briefly summarized as follows:

*In follow-up studies of 334 cases of bacillary dysentery, Block and Greene report (Elgin Papers, Elgin State Hospital, vol. 3, p. 136, 1938) an incidence of 8 per cent of chronic ulcerative colitis. This figure closely approximates our findings in the Jersey City epidemic of 1934 (chronic ulcerative colitis 8.2 per cent; chronic distal ileitis 2.5 per cent).

community of Pantton crossed Lake Champlain on the ice and discovered by chance the natural beauties and agricultural promise of the valley of the Bouquet River.⁴ This was 10 miles inland from the lake extending in a southerly direction from the present site of Elizabethtown in Essex County, New York. Their enthusiasm inspired a small migration across the lake the following winter of 1792 to this "Pleasant Valley." They struggled inland over a narrow trail through deep snow without benefit of even a road for sleighs. They harvested a good yield of maple sugar, however, and prospered sufficiently through the year so that they were able to persuade their former physician in Pantton to cast his lot with them. He was Asa Post, then a young man of 27, who is reported to have come to Pantton from Saybrook, Connecticut, for the "cure of consumption."⁵ Post served the young community with satisfaction until 1800 when the arrival of a colleague in the person of Dr. Alexander Morse enabled him to retire to a farm in the valley where he died at the age of 92. He was the first physician to settle in the mountains.

Alexander Morse who followed him in Pleasant Valley served the mountain community for half a century. His saddlebags and blood-letting lance are preserved as mute witnesses of the rigors of early medicine there. In 1809 he was a delegate to the State Medical Society where he presented a paper on the "Effects of the High Altitude of Essex on Certain of the More Common Diseases." Hence, the mountain physicians lost little time presenting the advantages of climate and altitude in disease therapy.

A fringe of small communities grew up in the valleys of the northern and eastern Adirondacks in the fifty years after the coming of Dr. Post. Lumbering, iron mining, charcoal making, hunting, fishing, trapping, and farming occupied their rugged citizens. Gradually, medical pioneers moved in to make a hard life more bearable. Outstanding was F. J. d'Avignon, the second, who escaped to Au Sable Forks in 1837 under sentence of death for activities in inciting the Papineau Rebellion in lower Canada. F. J., the first, had come from Avignon in France to practice in lower Canada. His son's adventurous spirit could not be held there, however. F. J., the second, found in the Adirondacks freedom and the opportunity to practice a brilliant and enterprising type of medicine and surgery in which he readily excelled. His Gallic mannerisms and wit lent him an almost legendary

character, and his ability soon made him in demand far outside the confines of the Au Sable Valley. He traveled on horseback prepared to do his operating by lamplight on any kitchen table. County historians' mention his outstanding work as regimental surgeon in the Civil War and, then, begin to speak of F. J. d'Avignon, the third, who became as able and equally in demand. His team of spanking blacks and the improving roads connecting mountain communities enabled him to range over an even wider area than had his father. The dynasty continues with F. J., the fourth, who maintains today the colorful traditions of his family in his practice at Lake Placid.⁶

But more isolated communities were late in securing their own physicians and were long dependent upon doctors miles away or lucky to have the incidental advice of medical men who came to hunt or fish in their vicinity. When the invalid Trudeau decided to spend the winter of 1876 and 1877 in the "miserable hamlet" of Saranac Lake, he became its first resident physician.⁸ In 1880 a contemporary historian⁹ recorded that the 11 families in the Tupper Lake region were dependent for medical care upon doctors 30 miles away. Under such conditions, the layman's knowledge of medicine often reached high standards of practical application.

W. F. Martin, pioneer resort hotel proprietor of Saranac Lake,¹ was for many years on call to the sickbeds of the community. The winter of 1862 was unusually severe. His only daughter became seriously ill in March. A blizzard was raging and roads were practically impassable. The nearest doctor was 45 miles away at Keeseville, but as the child became worse Martin determined he must be obtained. He chose his most powerful horse and hitched him to a "pung"—a handmade, woodshod, low box sleigh. He put in an ax and a shovel and started to dig and plow himself through heartless miles of drifted snow where drifts were 10 to 12 feet high in narrow places. As he came to houses he made his errand known, and all the men turned out to help him dig, often going a mile or more until fresh help was volunteered. In this way he reached his destination with his powerful horse exhausted and unfit for the return trip. Without resting himself, he secured a fresh horse and started back with the doctor. The return journey was comparatively easy and swift, but the great effort was in vain as the child died just fifteen minutes before the doctor reached her bedside. The Adirondack

History of Medicine

The session on History of Medicine was created last year, and four papers were read at the Annual Meeting in Buffalo. The first two were published in the November 15, 1941, issue. —EDITOR.

ADIRONDACK MEDICINE

A Historical Outline

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OUTSTANDING pioneers of Adirondack medicine from René Goupil in 1642 to the elder Trudeau in 1873 came to the mountain region through the influence of ill health. They met there the characteristic hardships of the frontier. The health-giving benefits of its climate gained wide recognition in Trudeau's time and spurred the medical advances in the treatment of chest diseases for which the region is noted.

The Adirondacks are a group of mountains in northeastern New York, the most prominent feature of a region long unsurveyed and unmapped formerly known as "The Wilderness" or "Great North Woods." Their name was first loosely applied to the entire region until the State set definite boundaries to it in establishing the Adirondack Park. In it are contained all or a portion of ten counties of the State comprising a total area somewhat larger than the State of Connecticut.¹ It was the State's last frontier and the story of its medicine should consequently be of interest.

Ill health has powerfully influenced the lives of outstanding physicians in the history of the Adirondack region. Early in the fifteenth century it prevented René Goupil from taking the vows of the French Jesuit Order.² He was able to study the medical art, however, and his religious ardor brought him to New France as a Jesuit lay brother, perhaps a counterpart of the modern medical missionary. In August, 1642, he set out in a party with Father Joques to travel up the St. Lawrence from Quebec on a mission to the Huron Indians of the Great Lakes. They were ambushed by hostile bands of Iroquois just above what is now Three Rivers, Quebec; both Joques and Goupil were captured along with a number of friendly Hurons. Their captors then set out with them to the Iroquois

country through the watercourses of the Richelieu River and the Champlain Valley.

Torture was immediately their lot. They were beaten, their finger nails were torn off, and the savages chewed the raw quick with their teeth. Goupil retained composure through it all, ministering to the wounds of the other captives as best he could and even opening a vein for a sick Iroquois on the journey. Father Joques related that he bore himself with great humility and obedience, even to helping to paddle the canoe for his captors. Their route carried them by water through Lake Champlain and into Lake George skirting the boundaries of the present Adirondack Park. From Lake George their party followed an old trail near Saratoga to the Iroquois villages near the present site of Auriesville near Johnstown on the Mohawk River. Then the ordeal of torture increased. For six days they were exposed to the cruelty of all the village. After six weeks Goupil was dispatched by a blow on the head, thus gaining a martyr's death for the first physician to set foot within the Adirondacks. Father Joques was spared and later escaped to France with aid from the friendly Dutch at Fort Orange. His letters recording the martyrdom of Goupil are preserved in a volume of the *Jesuit Relations*.^{2,3}

History of the next century and a half leaves the Adirondack region relatively untouched. As the "dark and bloody ground," it was the private hunting preserve of the Iroquois, traversed only by occasional parties engaged in hunting or war. The Champlain Valley to the east saw the ebb and flow of Indian, French, and British fortunes through the Colonial wars and the Revolution, but the medical men of these armies came no nearer to the mountains than Goupil and they lacked such historians as Father Joques.

After the Revolution, as the urge for westward colonization became stronger, two adventurous spirits from the little Vermont

¹Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 30, 1941.

Trudeau at Saranac Lake,¹ led no doubt by the obvious advantages of a post office and telegraph station in the midst of the wilderness. His first five winters there brought him continued good health, and the publications of Dr. Loomis and Marc Cook widened its fame as a health resort. The increasing number of patient-arrivals began to tax the village capacities, and the good doctor pondered the problem of care for those unfortunates who came with high hopes but inadequate means. His renewed interest in medical literature brought him by chance upon the theories of the German physician, Brehmer, who tentatively advocated the outdoor and institutional treatment of tuberculosis. Then, in 1882 Koch's epoch-making discovery of the tubercle bacillus fired him with great enthusiasm. He began at once fundamental experiments with the bacillus and, working in a laboratory heated by wood and lighted by kerosene, he succeeded in growing tubercle bacilli in a homemade thermostat for only the second time in this country. In 1884 wealthy friends supplied the capital and his guide friends bought land to make possible the humble beginnings of his inspiration, which has become the Trudeau Sanatorium of today.

The next decade saw almost unceasing labor accomplish great strides. A surprising number of scientific papers based on his laboratory studies came from his pen as he struggled to care for the ever increasing load of private patients, to supervise the administrative and medical problems of the growing sanatorium, and to solicit funds to make up the yearly deficits of the sanatorium and laboratory. The sanatorium treatment of tuberculosis proved successful and gained wide acceptance. This experience was plainly the inspiration for companion sanatoria of the region—Gabriels, Stony Wold, Ray Brook, and Sunmount. Through it all shone the lovable and sympathetic quality of his physicianship best exemplified by the maxim of which he was so fond: "To heal sometimes, to relieve often, to console always."²

To quote Donaldson: "Trudeau's was the first laboratory in this country devoted to original research in tuberculosis, and from it the doctor began to turn out work that was soon attracting attention all over the world. The experiments made and the papers written in Saranac Lake became the last word in tuberculosis. Gradually, the doctor gathered around him a growing group of younger men, imbued with his ideals and trained to his high standards of research and experimentation.

Under his guidance and inspiration they have done yeoman service in the great battle and achieved results that no man could have compassed singlehanded." Dean of the surviving group is Dr. Edward R. Baldwin, who came to Dr. Trudeau in 1892 to say that he had contracted tuberculosis and that he wished to come to the Sanatorium for cure and to study with him. When asked how he knew he had tuberculosis, he said he had used his microscope. Trudeau's *An Autobiography* remarks of this: "Truly Koch's teaching was beginning to bring practical results."³

By 1900 both the Sanatorium and the Laboratory were well established, and the good doctor delegated almost all the active duties to his assistants, although he continued his efforts to raise funds for their support until the last. He had frequent relapses of his old disease in his later years, but again and again he rose from his sickbed to continue. In 1910 he addressed the Congress of Physicians and Surgeons on "The Value of Optimism in Medicine." His paper quickly revealed itself as autobiographic and awakened wide attention. It was then learned that he had written it during a period of relapse when he awoke in the small hours each morning and needed some activity to relieve his mind from his own suffering.⁴

Dr. Trudeau died in 1915 in his sixty-seventh year. His friends and colleagues took immediate steps to preserve and expand the gains of his lifetime by forming the Trudeau Foundation. This serves as a governing and planning body for both the Saranac Laboratory and Trudeau Sanatorium. To these were shortly added a third project, the Trudeau School for Graduate Teaching in Tuberculosis, so that yearly several score of disciples of the "Beloved Physician" go forth to practice his teachings and humanity in all corners of the earth. His life had spanned an era in Adirondack medicine from backwoods practices to advances that won the continued admiration and attention of all in the field of tuberculosis. And with the passing of its greatest character this outline is properly closed.

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historian Donaldson termed the effort "an *Erliking* ride of the North Woods—one of those tragedies of distance that bring home to us the epic hardships of the pioneers."

After the death of his little daughter, Martin was deeply impressed by the fact that it was largely due to the remoteness of the nearest physician.¹ Hoping to save himself or others from similar tragedy, he began reading medical books and seeking from medical men who stopped at his hotel fundamental instruction in the treatment of the most common diseases. The members of the profession were coming to the Adirondacks in increasing numbers for sport and recreation, and they recognized Martin's ability and the wisdom of his effort. Dr. J. Savage Delavan, of Albany, was his chief mentor on his spring and fall visits, but all gave him suggestions freely and furnished him with authoritative books, pamphlets, and even medicines. His fame as an amateur doctor quickly spread in a community where there was no regular one, and he was called to sickbeds over a radius of 10 miles about Saranac Lake until regular practitioners arrived in the early eighties.

Writers began early to attribute healing powers to the Adirondack climate. Dr. Morse's paper of 1809 has been mentioned previously. In 1857 Hammond's *Wild Northern Scenes*, a chronicle¹⁰ of a decade of mountain vacations, paid tribute to the tonic effect of the region. In 1869 a Boston clergyman, better known as "Adirondack Murray" for his *Adventures in the Wilderness or Camp Life in the Adirondacks*,¹¹ was widely criticized for his account of the tuberculous invalid who was brought into the mountains on a stretcher and improved sufficiently to walk six months later. Many invalids jumped at the unwarranted conclusion that Murray had said the Adirondacks would infallibly restore health in any stage of tuberculosis. Consequently, without an investigation or reasonable preparation they started for the wilderness and some of them died there. Winslow C. Watson,⁷ in his *History of Essex County* published in the same year, stated: "I have met with instances of individuals, who had reached their forest homes, in advanced stages of pulmonary affection, in whom the disease had been arrested, and the sufferer restored to comparative health."

The medical profession began to appreciate the advantages of climatic treatment in the next decade. In 1879 the well-known New York internist, Alfred L. Loomis, was able to address the annual meeting of the New York

State Medical Society on "The Adirondack Region as a Therapeutical Agent in the Treatment of Pulmonary Phthisis."¹² He recorded 20 tuberculous case histories of whom 10 had recovered, 6 were improved, and 4 were failures. One of these was the case of Dr. Edward L. Trudeau, whose enthusiastic and logically written letters setting forth the values of the "salubrious" climate were fully reproduced. "Not only in New York but all over the country, the doctors evinced a sudden enthusiasm respecting the Adirondacks that was obviously kindled by Dr. Loomis's torch," so wrote Marc Cook in his *Wilderness Cure* published in 1880.¹⁵ His was the first guidebook and curing manual for the tuberculous patient, and Cook freely admitted that the interest arising from Loomis's paper was the excuse for his book. By 1886 the concept of the mountain cure for chest diseases had so developed that Dr. Joseph W. Stickler, of Orange, New Jersey, wrote a book called *The Adirondacks as a Health Resort*¹³ containing numerous testimonials of doctors and patients on experiences concerning the Adirondacks. These form an authoritative record of early health seekers most of whose experiences were prior to 1880 and many to 1870.

Clearly the idea of the climatic treatment of tuberculosis in the Adirondacks did not arise with Dr. Trudeau, but it was he who demonstrated its effectiveness and, by controlled study, placed it on a rational basis. When he developed the disease at the outset of a promising New York City practice in 1871, he was sent to the South for treatment.¹ Later, as the disease progressed, he remembered good times on earlier hunting and fishing expeditions at Paul Smiths and asked to be taken there. He was quite literally brought in on a stretcher in the summer of 1873. He improved surprisingly in that summer but left the mountains in the winter only to return in much poorer condition in the spring. In the fall of 1874 he had improved so greatly that he determined to remain for the winter. The venture succeeded and he improved steadily all through that winter and the following summer. In the autumn of 1876 he moved to Saranac Lake for the winter thus beginning a custom of forty years. In the joy of returning health and vigor his old love of hunting and fishing asserted itself and the guides were quick to learn his excellence. While he made no effort to practice medicine actively, his services were often in demand and he gave of them freely to all.

A handful of invalids had preceded Dr.

all the last war in the British service, and has distinguished himself this winter, particularly in his attention to the smallpox patients and the wounded."

The result of this letter was that on April 11, 1777, Dr. Cochran was appointed Chief Physician and Surgeon General of the American Army. He served in this position for nearly four years, in charge of the field work of the Medical Corps of the Army. On January 17, 1781, he was again promoted to the position of director of the military hospitals of the United States with the rank of General. This, the highest position in the medical service, he held until the end of the war in 1783.

Considering the amount of territory covered by the armies of the United States extending from New England to the Mohawk valley, New Jersey, Pennsylvania, Virginia, and the Carolinas, the Medical Department was lamentably small. At the time of its reorganization in 1780 it consisted of one director of military hospitals in supreme command, one chief physician and surgeon general in charge of field work, three chief physicians and surgeons of the hospitals, a purveyor and an apothecary with their clerks, fifteen hospital physicians and surgeons, with twenty-six surgeon's mates. The rest of the medical corps, including clerks, matrons, stewards, storekeepers, nurses, and orderlies, numbered only fifty-seven. There were barely one hundred people to care for the sick and wounded over a battle front of over a thousand miles.

Not only was the personnel inadequate but the medical supplies were almost entirely lacking. In his letters that have been preserved, Dr. Cochran is constantly describing the terrible condition of the military hospitals. By the year 1780 the country was bankrupt; the value of its money had depreciated almost to the vanishing point. The Continental Congress was at its wits end as to how to procure funds for the maintenance of the army and was sublimely uninterested in the needs of the Medical Department. Requisitions for supplies were pigeonholed and completely ignored. By 1780, the hospital situation had become acute, and that Dr. Cochran had little hope of its improvement is shown by a letter written by him from Morristown to Jonathan Potts, purveyor of hospitals, on March 18, 1780:

"Dear Sir:

"I received your favor by Dr. Bond, and

am extremely sorry for the present situation of the Hospital finances. Our stores have all been expended for two weeks past, and not less than six hundred regimental sick and lame, most of whom require some assistance, which being withheld, are languishing and must suffer. I flatter myself you have no blame in this matter; but curses on him or them by whom this evil is produced. The vengeance of an offended Deity must overtake the miscreants sooner or later. It grieves my soul to see the poor, worthy brave fellows pine away for want of a few comforts, which they have dearly earned. I shall wait on His Excellency the Commander-in-Chief, and represent our situation, but I am persuaded it can have little effect, for what can he do? He may refer the matter to Congress, who will probably pow-wow over it awhile, and no more be heard of it. The few stores sent on by Dr. Bond in your absence have not yet arrived. I suppose owing to the badness of the roads. If they come, they will give us some relief for a few weeks."

In a letter written May 24, 1781, to Samuel Huntington, president of the Continental Congress, Dr. Cochran said: "The Hospitals are in the utmost distress for want of necessities for the sick. In some of them we have not stores, and in others the supplies are so trifling and insignificant as to be of little or no service. I am sensible of the difficulties and embarrassments of Congress, but am also sensible that unless some speedy and effectual measures are taken to relieve the sick, a number of the valuable soldiers in the American army will perish through want of necessities, who would soon be serving their country in the field could they be supplied. The surgeon who has the care of the hospital at Boston writes me that his sick are in great want, and that he is not in a situation to procure any relief. At Albany the only article of stores is about sixty gallons of vinegar, and the sick suffer extremely at times for want of provisions. The other Hospitals are in a similar condition."

On March 25 of the same year he wrote to Dr. Bond, the hospital purveyor: "I was favored with yours of the 20th of February, about fifteen days ago, on my way to Albany, which accounts for my not answering you until now—as I only returned last night. I am sorry to inform you that I found that Hospital entirely destitute of all kinds of stores, except a little vinegar, which was good for

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GENERAL JOHN COCHRAN

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LEARNING against a circular mound in Forest Hill Cemetery in Utica are three stone slabs marking the location of the mortal remains that lie interred below. Two commemorate Colonel Benjamin Walker, aide to Baron Steuben and to General Washington, and his wife, while the third bears upon it the words: "Here lie the bodies of Dr. John Cochran, Director General of the Military Hospitals of the United States, and his wife Gertrude." It is seemly that the medical profession should know something of the story of this medical hero of the Revolutionary War whose remains lie in our state.

In 1570 John Cochran, a relative of the Earl of Dundonald, moved from Paisley, Scotland, to the north of Ireland. In the early part of the eighteenth century James Cochran, his descendant in the sixth generation, crossed the Atlantic and became an American farmer. James' third son, John Cochran, was born in Sadsbury, Pennsylvania, on September 1, 1730.

John Cochran, who early showed a disposition to go into one of the learned professions, was sent to a good grammar school and then took up the study of medicine in the office of Dr. Thompson, of Lancaster, Pennsylvania. Just as he finished his medical studies in 1755, the French and Indian War broke out. Since at that time medical education was largely empiric and such things as hospital internships were not obtainable, it was a common custom for young doctors to join the medical service of the army and obtain their practical experience on the ill or wounded soldiers. The young physician signed up as surgeon's mate in the British army and served through the entire war.

When in the summer of 1758 General Brad-

street made his famous expedition up the Mohawk valley across the carry at Rome through Oneida Lake, down the Oswego River, and across Lake Ontario to capture Fort Frontenac at the site of the present city of Kingston and turned the tide in the war, Dr. Cochran was a member of his medical corps. On this campaign he became a close friend of Major Philip Schuyler, of Albany, who, during the early days of the Revolution, as Major General, commanded the northern division of the American army until just before the battle of Saratoga. After the surrender of Canada, Dr. Cochran kept up his friendship with Philip Schuyler and on December 4, 1760, married his sister, Gertrude, at Albany. After that he moved to Brunswick, New Jersey, where his experience in the army, his conscientiousness, and his integrity soon made him one of the leading physicians in that state. In 1766 he was one of the founders of the New Jersey Medical Society and three years later became its president.

With the outbreak of the Revolution he attached himself to the Patriots' cause. In the late fall of 1776 he offered his services as a volunteer in the Medical Corps of the American Army. General Washington was not long in seeing that Dr. Cochran's talents were wasted in the position he held, and early in 1777 he sent the following letter to the Continental Congress: "I would take the liberty of mentioning a gentleman who I think highly deserving of notice, not only on account of his abilities, but for the very great assistance which he has afforded in the course of this winter, merely in the nature of a volunteer. This gentleman is Dr. John Cochran, well known to all the faculty. The place for which he is well fitted, and which would be most agreeable to him, is surgeon general of the middle department; in this line he served

legs, being all of a thickness, from his knees to his ankles, but that he had a fine gold coat." Dr. Cochran then comments that "a pretty representative the fellow will make to cause a rebellion to sink at his approach. I think from the description given of him he is much better calculated to cause an abortion in the fair sex than to quell a rebellion."

At the end of the war Dr. Cochran resigned from the army and, a short time after the peace, moved with his family to New York where he attended to the duties of his profession until the adoption of the new constitution, when his friend, President Washington, retaining—to use in his words—"a cheerful recollection of his past services," nominated him to the office of commissioner of loans for the State of New York. This office he held until a paralytic stroke disabled him in some measure from the discharge of its duties, upon which he gave in his resignation and retired to a home in the Mohawk Valley, a few miles east of St. Johnsville, where he terminated a long and useful life on the sixth day of April, 1807, in the seventy-seventh year of his age. He was buried near the old Cochran homestead still standing a short distance west of the Palatine Church.

His son, Major James Cochran, had married the daughter of General Philip Schuyler. General Schuyler, in 1772, had purchased a quarter interest in the Cosby Manor tract, where Utica now stands, and after his death in 1804 half of this became the property of his daughter, Mrs. James Cochran, and half of his other daughter, Mrs. Alexander Hamilton. In 1817, in order better to look after this property, the two sons, Major James Cochran and Captain Walter L. Cochran, moved to Utica and lived there for ten years. When they came to Utica the body of General Cochran was disinterred and reburied in the old burial ground on Potter Street. When this was abandoned it was transferred with military ceremonials to its present resting place in Forest Hill Cemetery.

By a strange coincidence the body of Dr. Augustus Burgoyne, the nephew of General John Burgoyne and surgeon general in his army, also lies in Oneida County. After the battle of Saratoga he was taken prisoner to Vermont, remained there after the war, and practiced his profession. He spent his last years at the home of his daughter, the wife of Dr. Zenas Bird, of Augusta, and on his death in 1824 was buried near Knoxboro.

SCIENCE IN 1941

The ten big science stories and achievements of 1941, selected by Watson Davis, director of Science Service, are:

1. The radio locator of attacking airplanes developed and put into war use.
2. The enrichment of white flour and bread with vitamins and minerals.
3. The "cure" of gray hair in humans by daily doses of one of the B vitamins, para-aminobenzoic acid.
4. The great aurora of Sept. 18.
5. The production of more and larger airplanes for war use.

6. The development of sulfadiazine spray treatment of burns.

7. Evidence that fowls constitute a reservoir for encephalitis or sleeping sickness and that mosquitoes carry the virus.

8. Evidence that infantile paralysis may be spread by flies.

9. Production of magnesium for airplanes by "mining" sea water.

10. Development and construction of a new type of cargo ship, Sea Otter II, welded and powered with auto engines.

"So you complain of finding sand in your soup?"

"Yes, sir."

"Did you join the Army to serve your country or complain about the soup?"

"To serve my country, sir—not to eat it."

—*The Highway Traveler*

Once Antigonus was told his son was ill, and he went to see him. At the door he met some young beauty. Going in, he sat down by the bed and took his son's pulse. "The fever," said Demetrius, "has just left me." "Oh, yes," replied the father, "I met it going out at the door."

—*Plutarch*

nothing—and frequently without bread or beef for many days—so that the doctor, under those circumstances, was obliged to permit such of the patients as could walk into town to beg provisions among the inhabitants. . . . I pity our distressed condition on the score of money, and unless a sufficiency can be procured at the opening of the campaign, we are undone.”

The lack of surgical dressings is well illustrated by the following request made by the purveyor: “Could you not, by advertisement, be able to procure a quantity of old linen from the good ladies of your city—I was obliged, after the last skirmish, when fifty men were wounded, to give every sheet I had in the world, but two, to make lint.”

How this small band of patriotic physicians carried on during the terrible years of deprivation is a source of amazement to us of the present day, used as we are to hospitals with comparatively unlimited resources. But they did carry on through hardship and through want, through filth and through hunger. The salary of the director general was only \$102 a month with \$60 for subsistence payable in Continental currency. The loss due to the depreciation of this money affected the medical officers but little, as these meager salaries were rarely paid. For two whole years not a member of the medical staff received a cent of pay, and they often went for days almost without food. In 1781 Congress, whose credit was by that time an imaginary quantity, adopted the plan of drawing on the various states for the salaries of the officers serving within its boundaries. The New York Legislature, while meeting the obligation of all other officers, made a distinction against those of the Medical Corps. By July, 1781, seven of the fifteen hospital surgeons had resigned. As three of the eight remaining were required for the three chief hospitals it left only five surgeons to take care of all the armies in the field. Pleas to Congress to promote certain of the surgeon's mates to fill the vacancies were ignored, with the result that the mates also began to resign in disgust.

At one time when Dr. Cochran learned that a former member of the medical staff was keeping certain supplies belonging to the government at Danbury, Connecticut, and he told the assistant purveyor at Fishkill to get them, he was informed that the latter had not sufficient funds to make the journey. He had to supply money from his depleted personal purse to make the trip possible.

In spite of these handicaps and hardships General Cochran struggled on doing all in his power to alleviate the physical and mental suffering of the sick and wounded under his care. That he cared for the souls, as well as the bodies, of his soldiers is shown by his appeal to the government to supply a chaplain to each hospital.

During the last two years of his service Dr. Cochran's difficulties were lightened. The surrender of Cornwallis stopped most of the active fighting, and the flow of fresh wounded into the hospitals decreased. By this time, too, aid from France was running smoothly and considerable quantities of medical supplies were arriving from our transatlantic allies. By the end of the war, due to the French aid and Dr. Cochran's untiring efforts, adequate medical care was being given to the Patriot troops.

Dr. Cochran was a man of stately presence and fair complexion with an expression to indicate genial and benevolent qualities. The volunteer surgeon's mate of the French and Indian War rose to the position of director general of the military hospitals of the United States by superior expertness in the duties confided to him and greater alacrity in their performance. An unusual personal modesty made his promotions unsolicited. In fact, when the position of director general became vacant, he strenuously urged upon Congress the appointment of the man next below him in his stead. The hardships and suffering he underwent were lamented only as they interfered with the service. He exhausted his personal credit by giving his all to the care of his charges. The last sheets from his bed were converted into bandages. A glowing humanity intensified his attention to the sick, and with an executive capacity, as thorough as rare, he was the author of many reforms in the army. He was the support of the languishing medical department.

That he was not lacking in a sense of humor is shown by a letter written in 1781 to Dr. Craik. Prince William Henry, later King William IV, had come to New York as a midshipman with the British fleet. A lad who had come from the city had seen the Prince, and Dr. Cochran related his description in these words: “He was asked what he was like and what he thought of him. He said he expected to have seen something more in him than in other people, but was disappointed except his being the ugliest person he ever saw, with a very large nose. His eyes resembled those of a wall-eyed horse, and his

tremely efficacious as wet dressings in the healing of the superficial pustular lesions of pyoderma. Satisfactory results have been obtained in 26 cases of extensive secondarily infected pediculosis corporis or scabies. Employed as an early wet dressing, improvement was noted in 8 cases of infectious eczematoid dermatitis. It is emphasized that, as a rule, when the superficial infection has been cleared up other treatments must be applied.

Localized pyogenic ulcerations and erosions as mild impetigos have responded to local applications of the solution diluted 1 to 3. The lesions have to be cleaned and the crusts removed by the usual methods. Cases that did not respond favorably to higher dilutions improved when a 1 to 3 solution was applied three times a day. Such strength is not recommended for wide areas. As a bentonite lotion it gave satisfactory results in 12 mild cases of impetigo and in 5 severe ones. When wet dressings are used, strict supervision should be exercised so that they are not allowed to dry.

It is worthy of note that a commendable and little known application of the solution is attained when it is used 1:80 in the form of a warm tub bath. The patient is allowed to remain in the bath from ten to thirty minutes. This procedure was tried in 6 cases of pemphigus, and all observers have remarked about the deodorant and cleansing qualities of the bath. The patients themselves have requested Dalibour's bath in preference to the commonly used potassium permanganate, over which it has also the advantage that it does not stain the bath tub. It is not to be taken for granted, of course, that it is at all advocated as a cure for pemphigus. Its astringent, deodorant, and antiseptic properties simply help to make the patient more comfortable. Such baths have also been used as an aid in several cases of exfoliating dermatitis, in generalized bullous eruptions, and in extensive pustular dermatitis with gratifying results.

We have also used this solution as a deodorant, with satisfactory results, in such diseases as granuloma inguinale, condyloma acuminatum, and severe malignancies. Dilutions of 1:10 to 1:20 are advised for this purpose. These dilutions can be recommended too for hyperhidrosis and bromidrosis.

In cases such as dermatophytosis, hypostatic dermatitis, and dermatitis venenata, when superficial secondary infection demanded immediate attention, dilutions varying from 1:8 to 1:30 were applied as wet dressings or

compresses in more than 200 patients. When the infection subsided in the course of a few days, the treatment was changed, the selection of the pharmaceutical agent depending upon the stage of inflammation of the skin and the particular sensitivity of the patient.

Dalibour's water, however, has not been found to be so good an astringent as Burow's solution in noninfected dermatitis venenatas or eczemas, nor did it improve cases of generalized moniliasis. It has not aided deep-seated pustular eruptions, such as sycosis vulgaris, pustular psoriasis, or furunculosis. We have found that in deep-seated pustular eruptions of the hands and feet Dalibour's water is not so rapidly effectual as $\frac{1}{4}$ per cent solutions of silver nitrate, but the prolonged use of it is less hazardous.

Prior to using this remedy, we patch-tested 25 patients with solutions of 1 per cent copper sulfate, 1 per cent zinc sulfate, and 1 per cent saffranine. No immediate or delayed reaction was observed. We have not noticed a single case of dermatitis venenata due to the application of the solution in over 400 cases in which it has been used, properly diluted in one form or another.

Summary and Conclusions

Dalibour's water has been found to be of value in several pyogenic conditions of the skin, tried in over 400 cases. Various methods of use have been discussed, and the incorporation of the components of the solution in new ointment bases has been suggested. The value of the solution used in the form of a bath is emphasized.

No intolerance was noted when properly diluted. Patch tests with the components of the solution always gave negative results.

The deodorant action of the solution has been emphasized.

It is of particular value in pyogenic infections presenting intolerance to other antiseptic preparations.

We believe that Dalibour's water deserves a more widespread use.

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Discussion

Dr. Frank C. Combes, *New York City*—This paper has brought to our attention an old and useful remedy. To many, Dalibour water

DALIBOUR'S WATER—ITS USES IN DERMATOLOGY

TIMOTHY J. RIORDAN, M.D., ORLANDO CANIZARES, M.D., and
GEORGE EDWARD MORRIS, M.D., New York City

FOR more than two centuries Dalibour's water, a weak solution of copper sulfate and zinc sulfate, has been used by the French school of dermatologists in the treatment of traumatic wounds and pyogenic infections of the skin. An extremely useful preparation with a fascinating history, it has withstood the test of time and, since it is not well known in this country, we wish to present our experience with its use for several different skin conditions.

Sabouraud³ claimed that the originator of this solution was named Auilleboust, sometimes also called Alibour, physician of King Henry IV, but according to Sezary¹ the real originator of this solution was Jacques Dalibour, a surgeon of the army of Louis XIV and member of the Royal Academy of Surgery.

Dalibour first used his famous solution in the year 1700 in the treatment of wounds of soldiers in the army of Louis XIV. At his death in 1735, Jacques Dalibour passed the secret formula on to his son, also a military surgeon, who in turn entrusted it to his daughter. The latter passed it on to her son, a druggist, who exploited it to its fullest under the name of "L'eau de merveille" (the marvelous water) and "L'eau souveraine" (sovereign water).

The name Dalibour has been spelled in many different ways such as D'Alibour (very commonly used), D'Alibourst, or D'Alibourt. But in all official papers in which the name of the originator of this solution was mentioned the name Dalibour was used. The last edition of the *French Pharmacopoeia* has reaffirmed the correct spelling as being "Dalibour," and it is hoped that this spelling will be carried in the English literature.

The Dalibour family kept the formula secret for many years; it was first revealed in 1812 in the *Formulaire Magistrale*, some 77 years after the death of Jacques Dalibour.

The original formula employed was: copper sulfate, 0.1 per cent; zinc sulfate, 0.4 per cent; camphor water, 1 per cent; safranine,

0.1 per cent; and distilled water (q.s.). The solution is pink in color, due to the presence of safranine, odorless, and clear. It has a mild, astringent, metallic taste. The pH of a 1:20 solution with distilled water is 5.3; with tap water, 6.3.

Of course, it was to be expected that many would try to modify and improve Dalibour's original formula. Some have suggested omitting the safranine, the solution thus prepared having a pale blue color due to the copper sulfate. Others have increased the strength of one or both of the contained electrolytes which are weakly present in the original formula. Dyes, such as gentian violet and brilliant green, substitutes for the safranine, have been found to have the advantage of a drying antiseptic action besides changing the color of the solution. The addition of 1 per cent or less of picric acid seems to be highly recommended in some South American dermatologic centers.² Thibierge³ added sodium chloride, 7 per cent, to make the solution isotonic with the blood. The *French Pharmacopoeia* gives two formulas of the Dalibour's solution: the weak, the original formula, to be diluted in two or three parts of water; the strong, which contains 1 per cent of copper sulfate, 3.5 per cent of zinc sulfate, and 10 per cent of camphor water to be used in higher dilutions.

It is not to be thought, however, that Dalibour's formula can be used only in the form of wet dressings or compresses, for it can be readily incorporated in such widely used preparations as Lassar's paste, lanolin, bentonite paste, aquaphor, or any other hydrophilic ointment base.

Some suggested formulas are: copper sulfate, 0.04; zinc sulfate, 0.16; distilled water, 6; lanolin, 10; zinc oxide, 4; petrolatum (q.s.), 30; or copper sulfate, 0.02; zinc sulfate, 0.06; glycerin, 4; aqua Hamamelis, 30; orange flower water (q.s.), 120. A preparation recommended for indolent leg ulcers is: copper sulfate, 0.03; zinc sulfate, 0.12; bentonite, 7; water (q.s.), 120.

During the past two years we have used Dalibour's water in many varied conditions in the dermatologic wards, in the clinic of Bellevue Hospital, and in private practice.

Diluted 1:20 it has been found to be ex-

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 30, 1941.

From the Department of Dermatology, New York University College of Medicine, and the Dermatological Service of the Third (New York University) Medical Division, Bellevue Hospital, service of Dr. Frank C. Combes.

TACHYCARDIA IN THE NEWBORN

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A REVIEW of the literature would indicate that paroxysmal tachycardia in infants is rare. This is probably the case but, like many uncommon medical conditions, when borne in mind it is apt to present itself with unexpected frequency.

As far as we were able to discover, no one person has had any wide or intensive experience with this condition (paroxysmal tachycardia in infants). In consequence, the treatment is far from standardized. Even in adults, as anyone who has seen a number of these arrhythmias knows, it is often necessary to try a few drugs before the desired effect is procured.

In infants the tachycardias of auricular origin are the most common, with auricular flutter and atrioventricular nodal tachycardia occurring next in frequency.^{4, 6, 9, 17, 19} While auricular fibrillation is fairly common in adults, it must be extremely rare in infants, since we have been able to find but 1 case reported in the literature.¹¹ The tachycardias of ventricular origin are uncommon and, as one would expect, the most serious.

We were fortunate to have the opportunity of seeing 1 case of auricular flutter and 1 of auriculoventricular nodal tachycardia. As events have turned, it was perhaps better that we were not confused by the wide divergence of opinion in the literature regarding therapeutics. In our innocence, we successfully employed the drug that theoretically appeared correct. Later we realized that the misgivings and fears we experienced were similar to those of others who have treated these infants.

The 2 cases we are presenting are unusual; nevertheless, the literature contains an exact duplicate of 1 and several instances of the other.

Case Reports

Case 1.—Dr. Jack Ehrlich, of White Plains, administered the usual prenatal care to the expectant mother, a well-nourished and well-developed white woman, aged 21. On March 11, 1939, in the eighth month of prenatal care, Dr. Ehrlich noted that the fetal heart was grossly irregular, with a rate ranging between 150 to 180. He followed the situation closely for one week and admitted the patient to the White Plains Hospital on March 19, 1939, for further consideration of the problem as to whether or not cesarean section should be performed. At this time the

mother's heart rate was 68, regular in force and rhythm. The fetal heart was grossly irregular in rhythm and the rate varied between 140 and 210. An attempt to take an intrauterine electrocardiogram was unsuccessful.

With the help of Dr. Studdiford the following reasoning was followed out. A coiling of the umbilical cord around the neck would be unlikely to give any trouble unless labor were in progress; a knot in the cord would produce a murmur as would most congenital cardiac defects and, since no evidence of premature placental separation presented itself, it was thought best not to anticipate it. Accordingly, it was concluded that the arrhythmia was inherent in the fetal heart and no further attempt was made to analyze it. Finally, it was thought that if the infant could not survive the trials of a normal delivery it might perhaps be better not to interfere with the law of nature in the "survival of the fittest."

The infant was delivered at full term on April 11, 1939, after twelve hours of labor, no instruments having been applied. The fetal rate during the second stage of labor varied between 130 and 180 and was grossly irregular. After delivery, physical examination of the baby (girl) was negative in every respect except that the cardiac irregularity persisted and the rate varied between 140 and 225. Pressure over the sinus caroticus caused a definite slowing of the heart rate. There were no murmurs. The birth weight was 8 pounds, 12 ounces. The placenta showed changes that were within normal limits.

An electrocardiogram was taken the first day of birth and showed auricular flutter with varying degrees of block. Digitalis, 2 minims every four hours, was started immediately. During the first twenty-four hours the infant lost 7 ounces. The nursing staff noted that the child's color was poor at times and that she regurgitated frequently. On the whole, the infant was never considered critically ill. On April 13, 1939, the third day after delivery, the condition was unchanged. At this time $\frac{1}{2}$ cat unit of digitalis was administered intramuscularly. Five hours later the heart rate was found to be 136, constant in force and rhythm; an electrocardiogram taken at this time showed a normal sinus rhythm with a peculiar second lead, which we think, in the light of subsequent electrocardiograms, was a digitalis effect. An x-ray of the heart was noncontributory.

The infant took her feedings poorly and remained below the normal expected weight. On discharge from the hospital on May 13, 1939, at the age of approximately 1 month, she was still 5 ounces below birth weight. The heart was examined frequently during this time and was al-

Presented at the Pediatric Section of The New York Academy of Medicine, April, 1940.

is new. The correct designation is new to me. I do not recall having ever seen or heard a historic review or clinical report on its use. In my own experience it always connotes Bockhardt's impetigo or osteofolliculitis. I use it regularly in this condition with almost invariably favorable results. I have never used it on any other occasion. Why, I cannot say. Probably it is because I think a well-prepared Burow's solution is better.

The logic of D'alibour's reasoning in compounding this solution is simple and clear. The local therapeutic value of copper sulfate and zinc sulfate was recognized by physicians many centuries before boric acid and aluminum acetate were known. Blue or Roman vitriol water in the fourteenth and fifteenth centuries was extolled as a local wet dressing in cutaneous inflammations and impetigo. The same may be said of white vitriol, which found its broadest use as a collyrium in inflammations of the con-

junctiva. Copper sulfate, in addition to possessing local stimulating and astringent properties, even in high dilutions is bacteriostatic and fungicidal.

Camphor is highly prized in the household as a local sedative. Aqua sedativa is an old item in the *National Formulary*, its antipruritic and sedative properties being dependent upon its camphor content. It has been recommended for use in herpes, erysipelas, pruritus, and eczema.

The simultaneous application of copper and zinc sulfates and camphor by means of D'alibour water affords us an effective bacteriostatic, astringent, and sedative solution for use as a wet compress.

It is mentioned in the older literature as a remedy in the treatment of chancroids, suppurating buboes, and purulent balanitis. I wonder whether it has been found superior to boric acid or Burow's solution for this purpose.

A HUMAN OSTRICH [a letter to the *British M. J.*]

"Sir—The following case is so out of the ordinary that I think its publication may be justified on that ground alone.

"A man aged 25 years was in prison, where he stated he had swallowed various articles. He was removed to a London hospital for x-ray examination, but at the hospital he managed to effect an escape, and was recaptured; in view of this behaviour it was thought necessary for him to be operated upon within prison walls. He was transferred to hospital on May 17, 1940. An x-ray examination made the same day showed (1) two long metal bodies and a big belt-buckle in the area of the stomach, (2) a screw in the right iliac fossa, (3) a long needle near the ileo-caecal junction.

"That evening I operated upon him under general anesthesia, opening the abdomen by a right paramedian incision. From the stomach I removed (1) a metal punch, (2) a spoon handle, (3) a tin prison-knife, (4) a buckle, (5) a piece of a metal comb, (6) a picture hook, (7) a piece of glass (this I had to work back from the duodenum through the pylorus). I found a needle lying partially through coils of small intestines and in the peritoneal cavity directly over the right iliac vessels. It appeared to have worked through the intestinal walls very easily. Later on he passed normally the screw which had been seen in the right iliac fossa. The third day after the operation, when he was left for a few minutes, he was found standing on his bed looking out of the window at the view. He made an uneventful physical recovery, but his mentality degenerated, and on June 8 he had to be certified insane, and

was transferred to a civil mental hospital, from which he escaped.

"On September 15, 1941, he was again in custody and admitted to prison with the history of having pushed a needle into his chest. There was a small scratch at the site of entrance internal to the left nipple. X-ray examination showed the needle lying to the left of the sternum in a slightly vertical line point downwards, and the lateral view showed it to be inside the thoracic cavity. I opened the chest with a horizontal incision over the sixth rib, and resected one and a half inches of this rib to open the pericardial cavity. Unfortunately the needle could not be found free in the cavity. The heart was beating strongly, and it appeared that the needle lay in the muscle wall; I did not feel justified in attempting its removal, especially as the anaesthetist was by then worried somewhat by the man's condition.

"On September 24 he passed four large pieces of glass per rectum, which did not injure him in any way. These he admitted swallowing about ten days previously in prison. He developed an empyema on October 13; I resected a part of rib and drained this: fortunately he made an uneventful recovery, the wounds being practically healed on October 30.

"The special points to be noticed are (1) that he could swallow large foreign bodies and (2) that he could pass glass fragments without any damage to himself.—I am, etc.,

J. W. McK. NICHOLL, M.D., B.Ch."

November 18



ways found to be normal. No medication was given from the time of the intramuscular digitalis. An electrocardiogram taken at 8 weeks of age was absolutely normal. The child was then taking her feedings well and weighed 10 pounds and 11 ounces. At present the child is 18 months old, weighs 23 pounds, and is apparently normal in all respects. There are no cardiac murmurs.

Case 2.—The second case occurred in an infant 10 days of age. She was the third daughter of an American-born white woman, aged 29. The first 2 daughters had been born abroad, 1 in Morocco and the other in Colombia, South America. They were healthy and normally developed.

The infant was a full-term girl delivered at the Lawrence Hospital on May 31, 1939, after a four-hour labor. Instrumentation was not necessary. The birth weight was 8 pounds, 2 ounces, and this was regained on the eighth day after the usual loss. A routine x-ray taken on the second day was reported normal. Dr. Follett, of Scarsdale, the pediatrician in attendance, had found the child to be normal on the ninth day. On the tenth day at the 10 A.M. feeding the nurse in charge found the infant pale, slightly cyanotic, listless, and cold. Dr. Follett was called immediately, and after a careful examination he concluded that the rapid heart was very likely primary rather than secondary to something else. This is certainly not an easy differential diagnosis to make (more will be made of this point later). An electrocardiogram was taken that evening and showed an atrioventricular nodal tachycardia at a rate of 256. The child looked critically ill, and it was felt that a heroic measure was justified. Accordingly, $\frac{1}{2}$ cat unit of digitalis was administered intramuscularly at 9:30 P.M. During the next hour and a half there was no change. At 2 A.M. the rate was 125, regular in force and rhythm. Clinically, the child had improved slightly. By morning she was normal, and an electrocardiogram showed a sinoauricular rhythm with a rate of 130. There was no electrocardiographic evidence of digitalis effect. A repeated x-ray of the chest was reported as showing a questionable thymus. On the sixteenth day, the day of discharge from the hospital, the infant weighed 8 pounds and 6 ounces. As far as is known there have been no recurrences. An electrocardiogram taken at the age of 5 months was normal. The child had developed normally. The family moved to Buenos Aires a few days after the last electrocardiogram was taken.

Discussion

These 2 cases bring many interesting points to mind. Are these episodes more frequent in infants than we have been led to believe? May they not be misdiagnosed and perhaps erroneously included in the vague groups of thymus and status lymphaticus death?

The clinical picture in our 2 cases was entirely different. Whereas the infant with nodal tachycardia showed evidence of severe circulatory disturbance, the one with auricular flutter was never critically ill. It is our opinion that nodal tachycardia in an infant is a much more serious affair than auricular flutter. Taran and Jennings²³ were impressed with this fact and wrote: "In cases of tachycardia of nodal origin an interference with ventricular filling may come into account. There is a real danger of a 'stopping effect.' Therefore, the stopping of a paroxysm of atrioventricular nodal tachycardia is an urgent measure."

Werley's²⁵ report of a fatal paroxysmal tachycardia in an infant 4 days old in whom the rate was 300 would indicate that these episodes are not to be taken lightly. Unfortunately, an electrocardiograph was not taken in this case. No medication had been administered. Autopsy showed a patent foramen ovale 7 mm. in diameter, and there was nothing else to explain the death.

Carr and McClure² reported a case of auricular flutter which was almost a facsimile of the one presented here. Their experience differed from ours in two respects. On the one hand, they were a bit more radical or conservative, depending on how you view the matter, in that the child was delivered by cesarean section. On the other hand, they were definitely more conservative and apparently justified in that they made no attempt to treat the auricular flutter, and this reverted to normal rhythm on the tenth day.

Sherman and Schless²¹ administered digitalis (4 drops of the tincture three times a day for eight days) to a 3-month-old infant with auricular flutter. The history suggested that the flutter had been present from birth. They felt the return to normal rhythm was the re-

FIG. 1. CASE 1. Electrocardiogram taken immediately after delivery. Auricular flutter with a block varying from 2:1 to 4:1. The auricular rate is 450. The ventricular rate is about 195. Right axis deviation.

FIG. 2. CASE 1. Electrocardiogram taken on the third day, five hours after intramuscular injection of $\frac{1}{2}$ cat unit of digitalis. Normal sinus rhythm at a rate of 135. Right axis deviation. The low T waves and the peculiar shape of the second lead may be digitalis effect.

FIG. 3. CASE 1. Electrocardiogram taken at the age of 3 weeks. The usual right axis deviation of infancy is present. The complexes are of a normal contour.

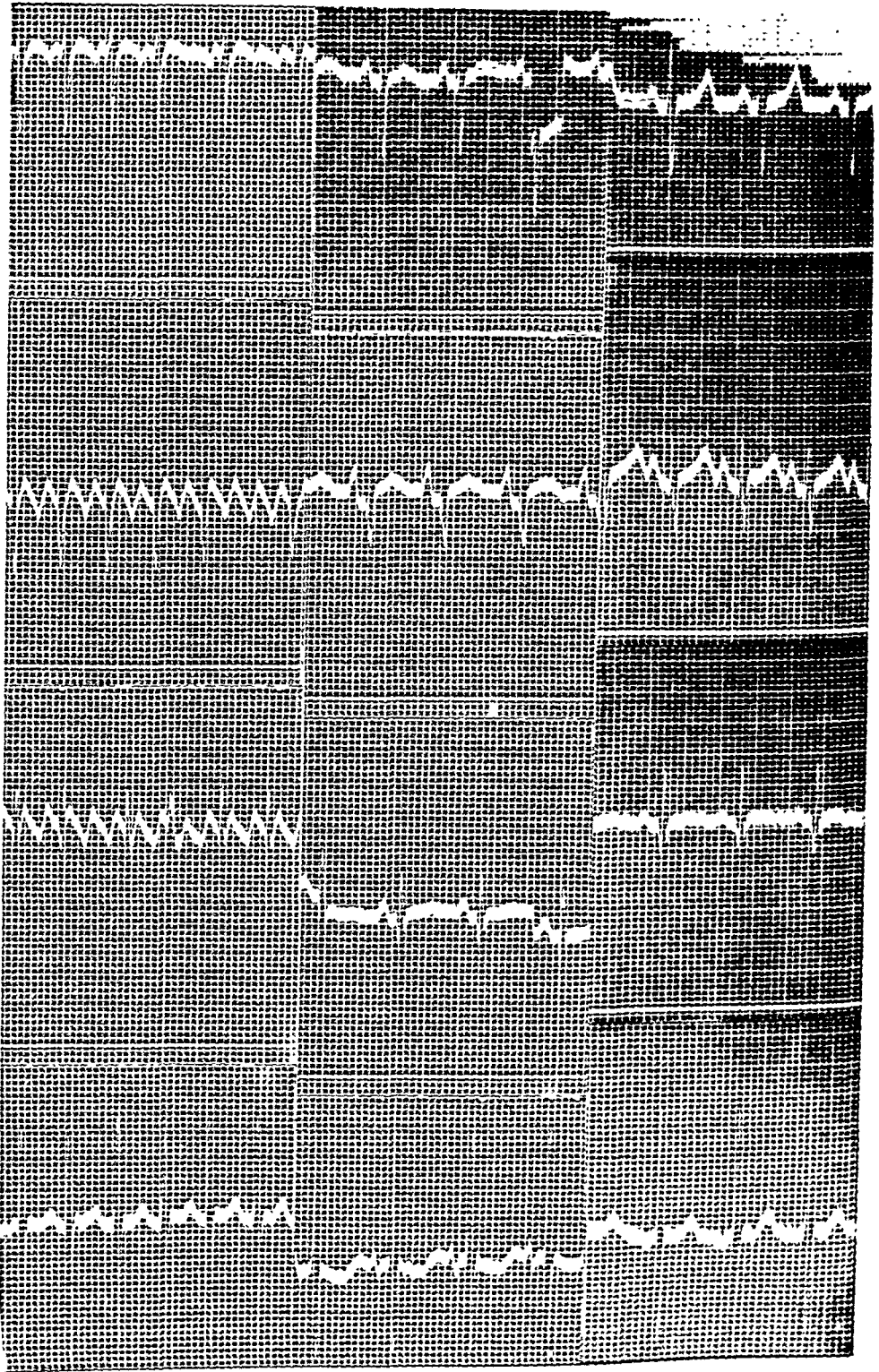


FIG. 1.

FIG. 2.
[See opposite page for legend.]

FIG. 3.

and that the administration of a single dose of digitalis, 10 grains, to a 3-year-old child even as an heroic measure, is not justified.

Aside from the tachycardias of ventricular origin, a fatal issue is most common where there is a concomitant anatomic congenital defect.²⁵ Auricular flutter occurs fairly frequently with a widely patent foramen ovale.^{1,23} There is no evidence of such a lesion in our case, but it is impossible to rule it out absolutely at this time. The youngster is being followed with this possibility in mind. Encephalitis,²⁵ diphtheria,¹⁶ and other acute infections have been associated with the onset of paroxysmal tachycardias. One can readily see how confused the issue may be in such circumstances.

There is another thought about which one might speculate. Would it be worthwhile to digitalize the mother in the event that one found the intrauterine fetal heart to have an irregularity similar to the one herein reported? There is precedent to show that this might be worth considering. Hyman,¹⁴ in 1930, made a phonocardiographic study of the fetal heart sounds and found that irregularities were not uncommon (9.2 per cent). He classified them into three types: (1) sinus arrhythmia, (2) extrasystoles, and (3) gross irregularities. His experience led him to believe that of the three types the gross irregularities were serious. In his 6 cases with gross irregularity, 1 aborted at the sixth month, 2 aborted at the seventh month, and 3 survived. Unfortunately, the cases are reported in summary, and it is impossible to know whether or not other factors were involved. It is, of course, equally possible that the irregularities were incited by an impending miscarriage, in which case digitalis or any other cardiac therapeutics would be unavailing.³

Summary and Conclusions

Two cases of paroxysmal tachycardia in the newborn, one of auricular flutter and the other of auriculoventricular nodal origin, are presented and discussed.*

The possibility of a paroxysmal tachycardia

should be considered in any instance where the cardiac rate is persistently rapid or irregular. Paroxysmal tachycardias in infants may occur more frequently than is commonly believed.

Though a great deal of investigation will be necessary before any therapeutic facts can be established, we feel that digitalis may be satisfactorily employed in the treatment of paroxysmal tachycardia of the newborn with a fair margin of safety.

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* We recently saw a third case of paroxysmal tachycardia in an infant 8 days old. It was supraventricular in origin with a note of 265 per minute. The infant was not seriously ill so it was thought best to observe the progress for twenty-four hours before administering any therapy. Fortunately, the attack subsided spontaneously after eighteen hours.

AT ANY COST

"... Civilian defense will utilize additional time. Work previously performed by uterus and residents in the hospitals will be part of the attending physician's task."—*Advance proof*

of an editorial, "No Matter What the Cost," in the *Journal of the Michigan State Medical Society*. [In all fairness the mistake was corrected in the published issue—by scissors and paste.]

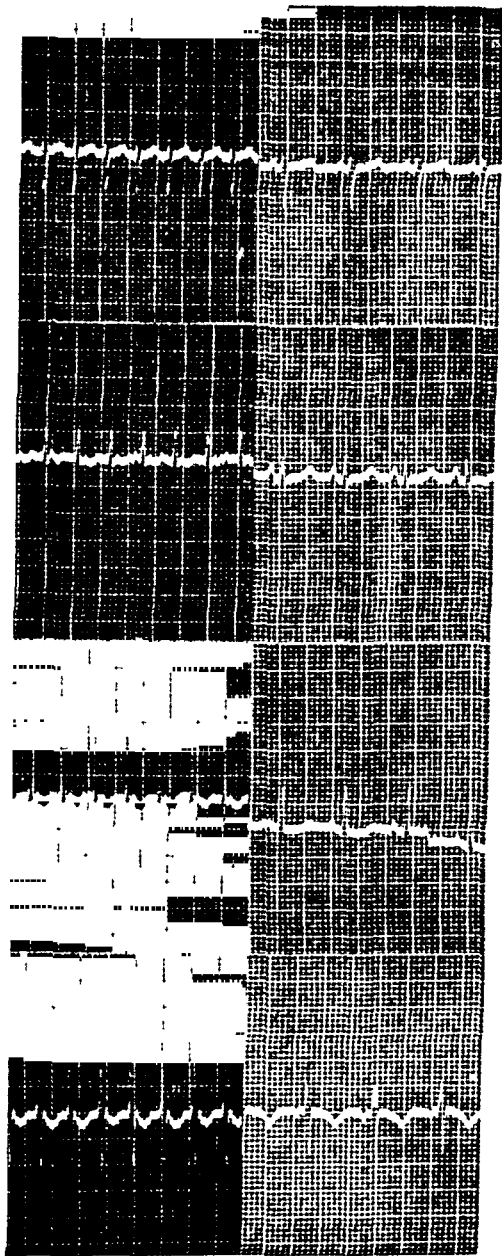


FIG. 4.

FIG. 5.

FIG. 4. CASE 2. Electrocardiogram taken during the acute attack at the age of 10 days shows an atrioventricular nodal tachycardia at a rate of 256.

FIG. 5. CASE 2. Electrocardiogram taken the following morning about twelve hours after the administration of digitalis shows a normal tracing with right axis deviation.

sult of a maturity of the conduction bundle tissue rather than digitalis effect.

Halbertsma and Hartog¹² were successful in reverting an auricular flutter of three years' duration to normal through the use of digitalis. The child was 2 years old when the flutter was first recognized.

In an article²⁴ published within the past two years the authors employed physostigmine salicylate, quinine, and pilocarpine nitrate in an infant 7 days old with auriculoventricular nodal tachycardia (280). The effects were alarming. In this same case there was an immediate and satisfactory response to intramuscular digitalis. A recurrence after circumcision also responded to this therapy, but this time one of the great fears of digitalis therapy was demonstrated—ventricular fibrillation was recorded. Fortunately, this was of a short duration and was immediately followed by a normal sinus rhythm. There were no further recurrences. The frank signs of cardiac decompensation which were present in this infant are not uncommon when the tachycardia has persisted for a few days, regardless of the type.

There are a number of reports of paroxysmal tachycardia that have been recurrent, starting and stopping spontaneously.^{8,13,15} Drug therapy in these has often shown little or no influence. One instance of the ventricular type¹⁸ masqueraded as idiopathic epilepsy for three years before its true nature was recognized. This same child died at the age of 8 during an attack, having experienced many seizures over a five-year period. Autopsy showed cardiac hypertrophy with vague myocardial changes. It is interesting that necropsy in another fatal ventricular tachycardia² in an infant aged 15 months also showed an unexplained cardiac hypertrophy.

Digitalis has been employed with varying degrees of success in the treatment of paroxysmal tachycardia in infants.^{7,10,11,14,16,21} No one has had the courage to advocate its use with any degree of emphasis. It is extremely difficult to draw conclusions from the literature of reported cases. One is apt to differ with the authors in the interpretation of the cardiographs or in the evaluation of the results obtained through the use of digitalis or other drugs. For instance, one case is reported²² as an auricular flutter in whom the use of digitalis resulted in a fatality, thus tending to discredit the use of digitalis in infants. On reviewing the case, however, one feels that perhaps it was a case of auriculoventricular nodal tachycardia rather than auricular flutter

The clinical improvement was remarkable. The temperature dropped from 103.4 to 100.4 F. at the end of twenty-four hours. The headache became less severe, nuchal rigidity almost entirely disappeared, and there was diminution in the Kernig's and Brudzinski's signs. The skin became suffused with a pinkish color probably due to the neoprontosil. For the next twenty-four hours 90 grains of sulfanilamide were given orally together with 30 cc. of specific serum intravenously. During the third day the same amount of sulfanilamide and 60 cc. of specific serum were given.

At the end of the third day of his illness the free sulfanilamide concentration of the blood was 9.5 mg. per hundred cubic centimeters. Further examination of the blood revealed 6,500,000 erythrocytes, with 8,950 leukocytes and only 63 per cent polymorphonuclear leukocytes. The patient had no complaints, was cooperative, and did not understand why it was necessary for him to remain in bed. The temperature varied between 98.6 and 100.2 F. On the fourth day a spinal tap revealed a clear and colorless spinal fluid under no increased pressure with a cell count of only 22 leukocytes per cubic millimeter, and no microorganisms were found either in direct smear or on culture. There was a concentration of 5.2 mg. per hundred cubic centimeters of free sulfanilamide in the spinal fluid. The patient now received 60 grains of sulfanilamide daily and over a period of four days ran a slight fever varying between 98.6 and 99.4 F. Another spinal fluid on the ninth day showed only 9 cells per cubic millimeter, with a free sulfanilamide concentration of 4.2 mg. per hundred cubic centimeters. The

patient was finally discharged feeling perfectly well, with no signs of residual injury.

Comment

The brilliant results of the use of sulfonamide derivatives and specific immune serum together in the treatment of acute meningococcal meningitis in its early stages are shown in the case recorded above. These results confirm the experimental results obtained by Brown⁵ and others in mice. We believe that this infection can be treated most effectively when these drugs and serum are administered according to the method used in this instance and that the results by this procedure indicate that the therapy of meningococcal meningitis has been simplified to the point where it can be used in the home with the most gratifying results yet obtained. There can be little question but that the intravenous administration of specific immune serum is far superior to any other mode of administration when combined with the chemotherapeutic agents now at hand. Thus, intrathecal therapy is not only unnecessary but definitely harmful.

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BIRTH CERTIFICATES IN DEMAND

An appeal to all patriotic citizens not to apply for birth certificates unless there is a pressing need for them was made on January 30 by the New York State Department of Health in an effort to eliminate any delay in issuing certificates urgently needed as the result of the present war conditions.

Dr. J. V. DePorte, director of the Division of Vital Statistics of the Department, emphasized that unnecessary applications will seriously impede national defense. "The national emergency has suddenly made it necessary for millions of native-born Americans to produce acceptable proof of their citizenship and age," he said. "As a consequence, the New York State Department of Health has been overwhelmed with requests for copies of birth certificates or for the delayed registration of unrecorded births."

TUBERCULOSIS IN COLLEGE STUDENTS

The 248 colleges and universities having modern tuberculosis programs have abandoned the ancient concept of "consumption"—the advanced, serious, contagious, often hopeless stage of tuberculosis. They know early tuberculosis as a sneaking foe that can be discovered long before it causes actual illness. They know that the tuberculin test and the x-ray locate cases early, whereas to await symptoms and stethoscopic findings is to mark time until late manifestations occur. They know that tuberculosis remains the chief cause of death in the college age group. They know that at least one-quarter of American college students are infected, as shown by their positive tuberculin reactions.—Charles E. Lyght, M.D., Chairman, Tuberculosis Committee, American Student Health Association, in a letter to college presidents, 1941

Case Report

ACUTE MENINGOCOCCUS MENINGITIS NOW A SIMPLE THERAPEUTIC PROBLEM

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PRIOR to the use of specific serums in meningococcic meningitis, when the only therapeutic gesture of significance was spinal drainage, the mortality rate was 75 per cent. With the introduction of specific immune serums, administered both intravenously and intrathecally, this rate was reduced markedly to approximately 25 per cent. This therapeutic procedure was often laborious and time-consuming and required constant supervision by a physician trained in serum therapy. Particularly was this true when it became advisable to administer the serum into the cisterna magna or intraventricularly. Finally, Hoynes¹ in a large series of cases demonstrated that 84 per cent of the patients could be saved by giving the serum merely by the intravenous route.

The introduction of sulfanilamide as an effective therapeutic agent in meningococcic meningitis has further simplified the care of this disease. Recently, Schwentker² reported a series of 10 cases treated with sulfanilamide alone. He administered the drug orally, parenterally, and intrathecally with the result that 9 patients recovered. Waghstern³ also obtained better results with this drug alone than when it was combined with intrathecal serum therapy. Further, Long and Bliss⁴ demonstrated an even lower mortality rate when the intrathecal route of administration of sulfanilamide was discarded and the drug was given only by mouth. Finally, Brown⁵ and others showed experimentally in mice that sulfanilamide subcutaneously, combined with specific serum intraperitoneally, was more effective than either used without the other. In like fashion, we believe that sulfanilamide orally and specific serums intravenously constitute the most effective therapy yet found.

Of the sulfonamide derivatives, sulfanilamide seems to be the drug of choice, since it permeates the tissues more rapidly than neoprontosil. However, three or four hours are required for the absorption of the drug when given by mouth. Because of this, it is often advisable at the onset of therapy to administer neoprontosil intramuscularly in order that an effective concentration of one of these drugs in the blood and spinal fluid may be obtained promptly, but the oral administration of sulfanilamide thereafter will suffice. Concurrently, specific antimeningococcus serum intravenously should be used. With this regimen, spinal taps other than those for diagnostic purposes and control of

treatment are not required. Kolmer⁶ states that a concentration of 5 mg. per hundred cubic centimeters of free sulfanilamide in the spinal fluid should be maintained for at least three days.

Recently, we have had the opportunity of treating a case of acute meningococcic meningitis according to this latter procedure. The results were so striking that we feel a report of this single case should be made.

Case Report

S. S., a robust white man, aged 21, had been perfectly well until the afternoon of June 14, 1940, when he noted slight chilliness and asthenia while returning from his laborious work on a farm. He vomited that night. The following day he felt somewhat better until early afternoon when he consulted Dr. A. Feldshuh because of a severe bursting headache. He was sent immediately to the Kingston Hospital, and upon admission at 6:00 P.M. the patient was apathetic but restless, uncooperative, and talked only in monosyllables. His temperature was 103.4 F. Marked nuchal rigidity and Kernig's and Brudzinski's signs were noted. There was a faint roseolar eruption over the neck, anterior part of the chest, and arms. Trousseau's tache cérébrale was elicited, and there was slight right ophthalmoplegia.

Examination of the blood revealed 5,440,000 erythrocytes, 94 per cent hemoglobin (15.6 Gm. = 100 per cent), and 26,700 leukocytes, with 91 per cent polymorphonuclears per cubic millimeter. The spinal fluid was under increased pressure and cloudy, with 6,100 polymorphonuclear leukocytes per cubic millimeter, 32 mg. per hundred cubic centimeters of sugar, and 228 mg. per hundred cubic centimeters of protein. On direct smear of the spinal fluid there were observed intracellular gram-negative diplococci, which on culture proved to be meningococci. Blood cultures yielded no growth.

Upon the assumption that the gram-negative intracellular diplococci were meningococci, specific therapy was begun immediately. So at 7:30 that evening, he was given 20 grains of sulfanilamide orally, 30 cc. of neoprontosil intramuscularly, and 20 cc. of polyvalent antimeningococcus serum (New York State Department of Health) intravenously. Three hours later there were administered 15 grains of sulfanilamide orally, 20 cc. of neoprontosil intramuscularly, and 20 cc. of serum intravenously. This amount of sulfanilamide and neoprontosil was continued every three hours for six more doses, combined with three 20-cc. intravenous injections of the specific serum. Thus, within twenty-four hours the patient had received 125 grains of sulfanilamide orally, 170 cc. of 5 per cent neoprontosil intramuscularly, and 100 cc. of antimeningococcus serum intravenously.

From the Departments of Medicine and Pathology, Kingston Hospital.

Laboratory tests will usually yield no positive results at the onset. Sputum and gastric content studies usually are negative until the lesion breaks into the bronchiole. Sedimentation rate and blood cell changes generally remain unchanged for some time.

In short, our chief diagnostic aids are:

1. A meticulous history (study of family history, contacts, and individual history).

2. Properly taken x-rays of chest, perhaps in various positions (or perhaps with spot films of upper sections). A persistent abnormal shadow, particularly in the upper part of the thorax, is always suspected as being of tuberculous origin.

3. Repeated study of sputum and gastric washings and, perhaps, culture and guinea-pig studies.

4. Continued observation of the patient.

More often than not, the diagnosis of truly early pulmonary tuberculosis requires a period of observation of weeks, sometimes months, for the evaluation of clinical significance of the evidence. Continued observation is indicated so often in the minimal lesion not only for diagnosis but also for determination of the activity of the lesion. The minimal lesion is quite often not an early one when first discovered. In general practice previous x-rays are usually not available, and it remains to be determined whether or not the x-ray shadow represents an active and recent lesion requiring treatment. Observation should include chest x-rays taken every two weeks; weekly studies of sputum and, perhaps, of gastric contents; and continued temperature and weight records taken under proper rest and dietetic regimen, with perhaps repeated blood sedimentation rate and blood picture studies.

The principles of treatment.—We have only two therapeutic measures that when used in combination can be said to be effective in pulmonary tuberculosis—namely (1) general or constitutional rest, which should include that of both body and mind and (2) local pulmonary rest (collapse therapy).

While bed rest alone will cure certain tuberculous lesions (and by that is often implied strict confinement to bed with restriction of toilet privileges), yet mechanical collapse of the lung without bodily rest rarely does so. It is presumably preferable to have a tuberculous lesion heal by rest alone. Such healing is for the most part ultimately most secure and avoids the complications of pneumothorax therapy. Unfortunately, rest alone will not heal advanced lesions. Collapse therapy must be resorted to in most cases of advanced pul-

monary tuberculosis. The hazards accompanying collapse therapy are well appreciated. In short the principles of treatment are:

1. Strict bed rest should be used alone, at first, in all cases where there is reasonable hope that it will achieve the result, except for most pressing economic reasons in some special instances.

2. Collapse therapy should be resorted to only after bed rest has been given adequate clinical trial or where the character of the lesion is such that rest alone offers no hope of success or where collapse is required for the safety of the patient—namely, in case of hemorrhage or imminent danger of spread of disease.

3. In most cases before, during, and even after collapse therapy, an adequate period of bed rest is indicated to promote stabilization of the lesion at first and ultimate healing later.

Indications and procedures of collapse therapy should not be confined to the sphere of activity of the general practitioner; hence, they are outside the scope of this discussion. With the diagnosis established, the general practitioner is well advised to consult with a specialist as to the ultimate policy of treatment to be followed. Where collapse therapy has been decided upon, it is best for the patient that his treatment be at least temporarily carried out under guidance of a specialist or in an institution.

Management of the patient under rest is within the realm of the general practitioner. His is the responsibility for the decision whether rest treatment should be carried out at home, in an institution, or at a resort. He should be aware of all the social, economic, familial, and individual psychic factors that must be considered in such a decision. He should be familiar with all the circumstances that make it more desirable in one case to treat the patient at home, while in the other institutionalization will answer the purpose better, even though the medical indications of the lesion may, strictly speaking, be the same. If he is to undertake management of the rest regimen in the home of the patient, the general practitioner must know whether the home and all that it implies, as well as the patient, are suitable for it. Sending a tuberculous patient away from his home for treatment differs materially from hospitalization of patients with most other diseases. Much tact and psychologic handling is required on the part of the general practitioner.

The principles of rest treatment cannot be detailed here. It should begin with complete

Therapeutics

CONFERENCES ON THERAPY

THESE are stenographic reports, slightly edited, of conferences by the members of the Departments of Pharmacology and of Medicine of Cornell University Medical College and the New York Hospital, with collaboration of other departments and institutions. The questions and discussions involve participation by members of the staff of the college and hospital, students, and visitors. The next report will appear in the May 1 issue and will concern "Treatment of Rheumatic Fever."

Treatment of Pulmonary Tuberculosis from the Standpoint of the General Practitioner

DR. CLAUDE A. FORKNER: The subject for our therapeutic conference this morning is the management of pulmonary tuberculosis from the standpoint of the general practitioner.

I think there is a widespread feeling among internists that they know how to manage and treat early tuberculosis. The best argument against that is the fact that our pulmonary clinics and our pulmonary wards are filled with the mistakes of the internists. So I think it is well worthwhile to have a discussion here of the management of early tuberculosis, particularly as it relates to the work of the general practitioner and internist.

Dr. Mayer will talk to us about twenty minutes on that subject and then we will open the meeting to general discussion.

DR. EDGAR MAYER: For the great majority of patients with chronic pulmonary tuberculosis, even those with advanced disease, there was a time in their illness when their lesion was so minimal that treatment was chiefly a matter of a few months' bed rest under the care of the general practitioner. The key problem, therefore, in chronic pulmonary tuberculosis is not how to treat the disease but rather how to discover it in time. There is no disease where the fate of the patient is more in the hands of the general practitioner. His understanding of the nature and potentialities determines more than anything else the ultimate results of treatment. Just as a truly early lesion is almost a guarantee of certain and prompt cure under proper management, inasmuch as approximately 96 per cent of early cases recover, so in the advanced cases, even with the most skilful management by pneumothorax, thoracoplasty, etc., the chances for recovery are little better than half. Since the mortality of untreated pulmonary tuberculosis is nearer 80 per cent, this is quite an achievement when we consider the number of patients in question.

It cannot be too often urged upon the gen-

eral practitioner that early diagnosis is all important for successful treatment. Even for the advanced lesion it may be said that treatment will be all the more effective the sooner it is begun. Therefore, just a few words about early diagnosis. First, the general practitioner must constantly have pulmonary tuberculosis in mind. He should consider it particularly when faced with certain complaints: (1) slight elevation of temperature, especially in late afternoon or evening, (2) weight loss, (3) fatigue, (4) recurrent "grippal attacks," (5) intermittent pains in the chest over long periods of time, (6) anorexia and indigestion otherwise unexplained, (7) slight recurrent cough with or without sputum, (8) blood streaking and hemoptysis.

The diagnosis of the early lesion, sometimes most difficult, is made by study of *symptoms*, *signs*, and *laboratory tests*. An early and even progressive pulmonary lesion may exist for some time without any *symptoms* whatsoever or with such as will pass unnoticed by most patients. Particularly often will there be no cough, expectoration, or fever. Occasional slight rises of temperature, clearing of throat, and swallowing of sputum frequently go unnoticed by most patients.

As to *signs*, the x-ray evidence of an early lesion may be overlooked, although the x-ray is our most important agent in diagnosis of the early minimal disease. The lesion may be hidden by other structures such as ribs, blood vessels, or the heart. It may be so small as to be missed, or its softness of shadow may prevent its recognition.

Abnormal physical signs are the last to be expected in the progress of an early lesion and will usually present themselves only when the lesion has extended to a bronchiole or to the pleura or is on the way to fibrosis. Absence of such physical signs should never exclude a diagnosis of pulmonary tuberculosis.

pulmonary tuberculosis come to pneumothorax treatment in a high proportion of cases. Collapse is indicated in the majority of these cases reaching an advanced stage and at an early phase usually as soon as there is evidence of stabilization.

In contrast, the majority of minimal lesions will not require collapse if discovered early and treated by bed rest. As this type of case is still a recent discovery, there is not yet available sufficient statistical experience over a longer period of observation. Data available now indicate that perhaps not more than 20 to 25 per cent of early minimal lesions progress to a stage where collapse becomes indicated or necessary for cure.

In the case of minimal tuberculosis found in practice, as I have already explained, it is not usually an early lesion but rather a fairly stabilized, if not an already arrested, lesion. Unless there is fairly persistent positive sputum, there is no indication for collapse therapy. The majority of these cases should be accessible to cure by rest treatment, although often economic considerations may determine the policy of treatment.

DR. GOLD: If pulmonary rest is really an important factor in curing pulmonary tuberculosis, why not use it in all of the early cases when the chances of securing collapse of the lung are always better than in much later cases? I am talking about artificial pneumothorax. Is it because it is too dangerous or is it because for some reason it is not effective enough?

DR. MAYER: A few years ago there was such a strong tendency for more and earlier pneumothorax treatment that for a time it looked as if someone would soon propose to collapse the lung to prevent development of lesions. The enthusiasm for early pneumothorax in minimal tuberculosis is dying down, I believe, for two reasons: (1) Pneumothorax is too serious, or, if you wish, too dangerous an intervention to be employed in the treatment of early minimal tuberculosis where the risk of such therapy is almost more than the risk implied in the disease. (2) Too often the end result of pneumothorax treatment is a fibrothorax with the loss by fibrosis of an entire lung and a severe functional handicap of displaced mediastinum, making the cure far worse than the disease.

I am among those who advocate increasing caution in the selection of cases for collapse and condemn indiscriminate collapse therapy for early minimal tuberculosis. As in all treatment, here, too, individualization is of

vital importance. In the light of the above, my answer would be that in the majority of cases of early minimal tuberculosis pneumothorax should not be carried out.

DR. C. H. WHEELER: I wonder if Dr. Mayer would say a word about the treatment or management of hemoptysis occurring in a patient with pulmonary tuberculosis? I wish you would answer particularly the question of whether or not such patients should be given morphine for suppression of the cough. This is a question about which there is a good deal of dispute.

DR. MAYER: Ordinarily, hemoptysis in a patient without a pulmonary cavity should give us little concern. Those with obvious cavity and those with nodes caseating through a bronchus are likely to have more serious hemorrhages.

The usual treatment of hemoptysis is immediate and strict bed rest with some sedation, not morphine, preferably a mild cough sedative such as codeine. Reassurance of the patient who is usually quite panicky is essential. There are other aids aside from pneumothorax—such as an ice bag applied to the chest, usually to the precordium; the sucking of ice; and perhaps the oral or intravenous use of calcium preparations. However, the use of calcium has for the most part been discarded. Coagulants such as thromboplastin have been used with little apparent success. Congo red given intravenously is likewise still uncertain in effect. Hypertonic saline given intravenously is also of questionable value. More important is the posture of the patient in its effect upon hemoptysis. It is best to have the patient in a semirecumbent position where he can comfortably and freely expectorate the blood to avoid the retention of clots and aspiration of infected blood. This prevents aspiration pneumonia, atelectasis, and spread of disease. With the free expulsion of the blood, even at the sacrifice of added coughing, the dangers are minimal.

Morphine depresses the cough reflex to a degree where it may cause retention of blood with its harmful sequelae.

Pneumothorax (if one can localize the site of the bleeding and if one has knowledge of the preceding disease—as to its nature and extent) is occasionally resorted to in otherwise uncontrollable hemoptyses. However, the danger of producing atelectasis during active bleeding must be recognized. Collapse of a lung drowned in blood is a questionable procedure at best. When collapse is employed as an

rest in bed in a well-ventilated room or on a porch with adequate but not necessarily excessive feeding. The diet should be well balanced and fortified by an ample supply of vitamins and minerals. Duration of strict bed rest treatment and the pace of its gradual relaxation must be strictly individualized under varying circumstances.

Experience in judging the progression or regression of the disease is a vital requirement for the general practitioner in the management of his patient. In principle, the patient under treatment is kept under constant observation and with management as outlined above. Close study should be made of the course of temperature, pulse, weight, and symptoms, as well as of changes in physical signs and x-ray lesions.

Clinical improvement is often soon achieved, but even complete subsidence of all symptoms does not necessarily mean healing. Under treatment, tuberculous lesions may become and often remain stabilized for long periods without going on to ultimate healing.

The goal of treatment is healing by resolution or by visible fibrosis in x-ray, with persistent negative gastric washings after the patient no longer coughs or expectorates or manifests any symptoms. Depending on the extent and character of the lesion when treatment began, a proportionately long rest period must be carried out and followed up by a control period of graded exercise before a lesion can be considered arrested, even after it appears fibrotic by x-ray and the gastric washings are negative.

In the management of pulmonary tuberculosis the general practitioner's daily routine will consist largely in treating such symptoms as cough, night sweats, anorexia, pain, hemoptysis, and laryngeal and gastrointestinal symptoms. At times, emergencies such as spontaneous pneumothorax or serious hemoptyses will require his immediate attention. He may also have to deal with complications such as diabetes, pregnancy, and extrapulmonary tuberculosis. Not infrequently, his resourcefulness will be taxed to the highest degree in tactfully handling personalities resistant to prolonged confinement to bed.

Last to be mentioned here, but not of least importance, is the responsibility of the general practitioner to institute promptly a campaign of prevention in every family where a case of tuberculosis has turned up. Isolation of the patient is, of course, the first step, with investigative tuberculin and x-ray studies of all contacts. The implications of this are too important to be discussed in the few minutes at

our disposal. All we can do is to emphasize its significance.

Finally, may we express the hope that in the near future practically all cases of pulmonary tuberculosis will be discovered so early by the general practitioner, and that social and economic conditions will improve so markedly, that the great majority of these patients will be treated by him in their homes.

DR. FORKNER: I think I am right in saying that tuberculosis is still the most common cause of death in the young adult. I think that is a point well worth remembering. There are about 20,000 cases of tuberculosis in New York City at the present time. In general, I believe our medical schools often place too little emphasis on tuberculosis. The feeling is as though it were a disease of the past rather than the present.

Now we shall open the subject for general discussion. Are there any questions or does anyone wish to discuss some point Dr. Mayer brought up?

DR. HARRY GOLD: What is so-called early minimal tuberculosis today and what proportion of early minimal cases of pulmonary tuberculosis with positive sputum are likely in the end to turn out to require pneumothorax for cure?

DR. MAYER: Our concept of early pulmonary tuberculosis has recently undergone substantial changes.

In the first place, it must be understood that early tuberculosis is not necessarily minimal and vice versa. Minimal tuberculosis is not necessarily early. A fair proportion of cases of pulmonary tuberculosis is acute from its incipency and begins with an infiltration of a size far from minimal. A still greater proportion of cases of pulmonary tuberculosis is aborted when still minimal in extent and is more often than not discovered only after it has lain dormant for years. The bulk of pulmonary tuberculosis is a chronic progressive disease, which, as you know, hardly ever reaches our hospitals or clinics before it is in a moderately advanced, and much of it only in the far-advanced, stage.

When discovered in practice, minimal tuberculosis is hardly ever early. The definition "early and minimal tuberculosis" is strictly applicable only to the cases picked up in case-finding surveys. The more acute or subacute forms of early tuberculosis are not minimal when discovered even in cases kept under constant surveillance.

Now, as to the question of their treatment by pneumothorax, early subacute forms of

lished by the American Medical Association in 1939.

DR. CATTELL: Do you not recommend ultraviolet light at the present time for pulmonary cases?

DR. MAYER: I personally do not recommend it. I do not think it is indicated.

DR. JANET TRAVELL: How about humidity? Is a dry climate to be preferred to a damp one?

DR. MAYER: In general, I should say that a dry climate is to be preferred to a damp one. I should certainly stress that if you are referring to extreme dampness. On the other hand, if you refer to the climate of the coast of Florida as damp—it is often spoken of in that way—then I have to detail my answer. There are certain cases of tuberculosis with severe harassing cough that are aided by going to such a climate as Florida. The cough is greatly relieved there. If we examine the locations of our municipal sanatoriums, we find them in New York near large bodies of water in comparatively damp sections, and yet the results in the treatment of the patients there are apparently good, despite, if you will, the great humidity. I do not believe we can generalize on the advantages or disadvantages of various climates. We must evaluate the individual case. The preference for a dry climate over a relatively damp climate depends often on the physician's personal experience. The factor of climate stands out much less prominently than the other factors of a resort—namely, the environment favorable for the sick, the resort regimen, and the greater ease of taking prolonged rest cures in such a resort.

STUDENT: In view of the fact that you institute pneumothorax in a progressive lesion, would you require bed rest just the same?

DR. MAYER: I am glad to have this question for it gives me an opportunity to stress again some important considerations.

Pneumothorax and rest must be employed to supplement each other and can never be used to substitute for each other. Each has its own sphere of application. Healing of tuberculosis is ultimately accomplished by the body. Rest is our chief means of promoting the effort of the body to get control over the infection. One mechanical effect of collapse is to interrupt bronchogenic dissemination—i.e., spread and development of fresh lesions at new sites before local healing has been accomplished in the old lesions. The progression of tuberculosis often cannot be stopped without pneumothorax. In most cases where the lesions are sufficiently advanced so as to need

pneumothorax to collapse a cavity or to control a positive sputum, the process will not heal without sufficient rest to begin with. After the lesions have become well stabilized, a mechanically effective collapse may be continued with the patient back at work, since in due time healing will be accomplished in the lung under local rest alone. Few indeed are the cases in which the mechanical effect of pneumothorax alone suffices for the healing process. In contrast, there are many cases in which adequate rest alone cures.

DR. FORKNER: Dr. Mayer, with regard to bed rest in the early case of tuberculosis, would you give us some idea of how long you would want a patient to remain in bed? Would it be two weeks or would it be two months or longer?

DR. MAYER: This question brings up the most acute problem in the treatment of pulmonary tuberculosis. As you may know, the problem is now brought to the fore by the increasing number of cases of true early and minimal lesions revealed by continued x-ray surveys such as are maintained in hospitals for students of medicine and nursing. Many practitioners have taken the cue and make chest films of patients coming in with trivial complaints. Thus, we are now being faced with this problem almost daily. We do not yet know the correct answer. We are groping in the dark trying to work it out from current experience. There are a few guiding facts. The three possible courses of evolution of these early tuberculous lesions are resolution, breakdown, and healing by fibrosis. The more acute the onset, the more likely are lesions to resolve or break down rapidly. The more chronic the evolution, the more likely are the lesions to break down slowly and heal by fibrosis eventually. There is a critical period for both types of lesions—namely, shortly following the onset. In more acute cases this is measured by a few days to a few weeks. Such lesions may either resolve or break down with a rapidity that is frequently amazing. As you may know, some observers have been misled into speaking of a benign exudative form of tuberculosis in such cases. What they have failed to recognize is that the exudative reaction is merely one phase of a series of events. In the majority of cases, after this acute phase has subsided by resolution of the bulk of the infiltration, there are left at the site residual lesions of a chronic type. In chronic tuberculous lesions the critical time may extend for from many months to a year or two. Within that period they may yet break down and

emergency, its management requires consummate skill.

Occasionally, one must resort to phrenic nerve crushing or rarely phrenicectomy when all other measures have failed.

When answering an emergency call for a pulmonary hemorrhage, the practitioner should always bear in mind that his success in reassuring the badly frightened patient by creating an atmosphere of complete confidence as to a favorable outcome and the usual lack of serious significance of the event in the subsequent course of the disease is perhaps the most effective therapeutic achievement.

DR. CARL MUSCHENHEIM: I am going to ask Dr. Mayer whether he will say a few words about the place of tuberculin in pulmonary tuberculosis.

DR. MAYER: Tuberculin therapy still has some exponents. Except in the chronic sluggish productive type, practically all workers have discarded the use of tuberculin therapy for pulmonary tuberculosis. Even in productive tuberculosis, only the rarest use of it is found and with mighty doubtful results.

DR. McKEEN CATTELL: We used to hear a great deal about fresh air, diet, and heliotherapy. How important are these today in the management of tuberculosis?

DR. MAYER: As I stressed in my previous remarks, rest is the most important factor in the treatment of pulmonary tuberculosis. This includes rest of mind as well as of body. Fresh air still plays a real part in treatment. What do we mean by fresh air? Must the patient live as many hours as possible out in the open, living and sleeping on an outdoor porch? Must it be country air or air of a particular climatic resort? Is it satisfactory to take the cure in a bedroom with the windows sufficiently open to recognize the presence of what we call cool moving fresh air?

I should say that everyone would agree that fresh air is an important part of the treatment of pulmonary tuberculosis, whether it is in the city or in the country, in a specific climatic resort such as the desert of Arizona or the dry colder regions of the Adirondacks, or in certain mountainous climates, as Asheville, North Carolina, or Colorado. The indications for such different localities are at present based upon clinical impressions that have developed through experience. It is preferable that the patient, if possible, lie out in the open on a porch and, if the climate is not too severe, that he sleep there at night. For obvious reasons it is also preferable, if the economic status permits it, that a patient take the fresh air cure

in the country. However, today the economic features stand out so prominently in advising treatment that it often sways us in making compromises, so that many patients take their fresh air rest cure in municipal hospitals in city quarters or at home in rooms with the windows open. The results under such circumstances are on the whole apparently satisfactory, even though perhaps not as good as in the case of patients who are sent away. Satisfactory comparable statistics on the end results of treatment in cities compared with that in the country do not exist.

As to diet, formerly patients were regularly put on forced feeding. This has been discarded and, today, it is recognized that the diet indicated is one that should be of sufficient caloric intake to have the patient attain his usual maximal weight of the past, that it should have a so-called adequate supply of vitamins and minerals, that it should usually be enforced with at least a few glasses of milk daily to be certain of the optimum intake of calcium, and that empirically at least the addition of codliver oil is valuable. Vitamin C has recently been particularly advocated, so that the daily intake of at least 50 mg. should be supplied. In more severe and active and extensive cases perhaps 200 to 300 mg. daily should be administered.

As to heliotherapy for uncomplicated pulmonary tuberculosis, no clinical evidence is at hand to prove the indication for the use of light. The lack of accurately controlled observations among certain workers makes it necessary to accept their favorable reports most cautiously. Stationary pleural tuberculosis has been helped by the use of light. Benefits are obtained by patients suffering from tuberculosis of the bones and articulations, peritoneum, intestine, lymph nodes, and the larynx when the entire body is exposed to carefully graded doses of natural sunlight or to radiation emitted by certain artificial sources of light rays.

In tuberculosis of the skin, lupus vulgaris alone responds to light as a rule. Scrofuloderma and erythema induratum react less constantly and lupus erythematosus does not respond or may even be aggravated. Genito-urinary tuberculosis deserves a trial of light therapy in combination with other measures. Postoperative sinuses of tuberculous origin are responsive to light. As to the sources of light, experience has taught us that there are certain indications for artificial sources as against sunlight. These I cannot detail now, but I refer you to the *Handbook of Physical Therapy* pub-

sidered most justifiable in young people in whom tuberculous lesions are notoriously unstable in character. I am speaking of the age group between 15 and 25 and more particularly of the female. I am inclined to believe that some of the lesions in this age group have a more progressive tendency now than was the case in those seen fifteen to twenty years ago.

With this new type of minimal tuberculosis which can progress so rapidly we are compelled to play safe. We have no criteria in deciding which ones of these, although they are free of symptoms, are going to progress rapidly and which ones are not and, when we first find them, we cannot be certain without previous study whether they are healing or not and on that basis we have to play safe.

One should particularly emphasize that neither x-ray nor clinical signs are entirely reliable guides. Apparently, tuberculous lesions can, and often do, progress without symptoms even while the patient is actually gaining weight and seems to improve in every way. It is common to observe that the patient loses all constitutional symptoms just when the lesion has broken down and spread. Until the new crop of lesions has developed so as to become visible by x-ray or become manifest by symptoms, there will be a period of complete freedom from signs and symptoms.

STUDENT: Will you comment on management of pregnancies in relation to pulmonary tuberculosis?

DR. MAYER: We have come a long way from the long and rigidly held point of view which said that a tuberculous woman should not become pregnant, that if she does the pregnancy should be interrupted, and that if she bears a child she should not nurse. It is still true that pregnancies are poorly tolerated by many tuberculous women and that they often prove to be aggravating in active cases and may reactivate unstable lesions. When pregnancies complicate active or unstable lesions, it is still the best policy to terminate them if discovered within the first three months. In the light of recent experience, however, we no longer look upon pregnancy as a serious complication. With proper management of both the tuberculosis and the pregnancy, undue risks may be eliminated in the majority of cases. Pregnant women have been shown to tolerate well the usual procedures for the treatment of their pulmonary lesions. Sometimes surgical delivery may be deemed more advisable if labor appears difficult.

In the present phase of tuberculosis control the practitioner should realize that this disease

must not stand in the way of its women victims' most precious purpose in life—namely, the rearing of a family. Intensive preventive measures against tuberculosis in young married patients are necessary. An x-ray of every young woman who intends to or has already become pregnant is desirable. Planned pregnancies are a part of modern birth control and from the standpoint of tuberculosis they are more than justified—they are an absolute necessity. The tuberculous young woman should be well apprized of the safe and unsafe period for pregnancy according to the exigencies of the individual case. In cases where pneumothorax treatment is employed, the years during which the process is well under control are often the safest period for a tuberculous woman to have her children. The period of activity of the tuberculosis and at least a two-year period following arrest of the process should be considered unsafe for childbearing.

STUDENT: What proportion of the patients who are found with minimal lesions and are adequately treated with rest are subsequently discharged as arrested cases?

DR. MAYER: For the minimal case in general, I should say that 90 per cent of them are cured when competently managed. This means that approximately 10 per cent of these will progress regardless of rest treatment. In truly early minimal tuberculosis some workers feel that they can control practically 100 per cent of them. In hospital and institutional work where they are on the alert for the early minimal case, they know exactly when the lesion is developed and put them to bed immediately. Of the minimal cases found in general practice, I feel that at least 10 per cent would progress regardless of what you do.

STUDENT: But, of these early minimal cases discharged and thought to be perfectly cured, are there not always some who subsequently run into trouble again five or ten years later?

DR. MAYER: We haven't enough data on that point.

DR. SEYMOUR RINZLER: I should like to know the approximate incidence of tuberculosis in diabetes.

DR. MAYER: The incidence is generally considered to be higher in the diabetic than in the nondiabetic patients, but there is still a difference of opinion.

DR. TRAVELL: Would the management of the minimal lesion in a diabetic be any different from that in a nondiabetic patient?

DR. MAYER: It is essential to control the diabetes. With the diabetes controlled, the

spread. One can never be sure of their ultimate fibrosis and healing until that stage has been safely passed. Even after that, the possibility of exacerbation of the lesion still exists for another year or two but becomes less likely with every year passed in safety.

Accordingly, the period of bed rest is determined by the extent and the acuteness of the process at the onset and the course taken in the first few months. An initial period of bed rest of a few months is indicated for practically every case. The more acute the onset or the more extensive the lesion at that time, the longer the period of bed rest that should be planned. The more chronic the onset and the less the extent of the lesion, the more uncertain are we as to its time of origin and, therefore, the period of rest it requires. At best, the proper treatment of such a case is problematic. Here, the age of the patient, the character of the x-ray features, and the clinical and laboratory findings (sedimentation rate, blood picture, history of exposure), etc., should be considered. The younger the patient, the more likely are we dealing with a fresh lesion still within the critical period. The minimum time to be considered should be about three months. In some cases this may have to be extended to six months or even a year. I believe that after an initial period of about three months' rest the majority of these lesions will show the course they are likely to take. Those patients, then, with unchanged chronic lesions often do as well under close observation at home as they do in sanatoriums. These chronic lesions may need close watching for a few years, and it is not reasonable to keep them in institutions for such long periods. The effect of such treatment on the morale of these symptomless patients would be worse than the disease. Observation with frequent x-ray examinations can be made equally well in the home and office.

DR. FORKNER: Not infrequently in these instances, the x-ray report states that the lesion is healed. Would you depend on that?

DR. MAYER: To rely upon the interpretation of a single x-ray film is to invite disaster. I have pointed out before that minimal lesions discovered in practice are mostly not early. Many such lesions may be old and practically healed when they are discovered. Six to ten months is a fair period in which such a minimal lesion may be completely resolved or fibrosed. However, we are hardly ever able to discover how early the lesion is from the features of any single film alone. Certainly we can never be certain about it. To be sure, a series of x-ray

pictures is a great help and, if the films are technically comparable, the shadow showing a tendency of the tissue to shrink, harden, and become stringy is a fairly reliable indication of fibrosis, particularly if increased translucency (emphysema) of the surrounding lung areas is also in evidence. The more chronic the character of an early lesion, the longer is the period of uncertainty as to its ultimate tendency even by observation in serial x-rays.

Let me illustrate this with the case of a school teacher whom I saw quite recently. A lesion was seen that might have been interpreted fibrotic in nature. It had a somewhat nodular appearance and in view of my own sad experience in the past I advised that the patient go to bed. She consulted a few other doctors who told her there was no active lesion. There were no symptoms and six months later I met her physician who was eager to tell me how unnecessarily I had frightened the patient because she was perfectly well and going about her work. Last week, which was three months later, she had a severe breakdown. It was nine months after the appearance of a supposedly fibrotic lesion in the x-ray before it rapidly liquefied. She now has small cavitation.

STUDENT: In view of what you said about bed rest for those patients, why must pneumothorax, if given, be maintained for many years in early cases.

DR. MAYER: As I have already stated, the majority of early cases do not require pneumothorax, particularly if they are still in the minimal stage. The early cases that do require pneumothorax treatment are those that have shown rapid breaking down tendency, early spread, and extension beyond the minimal stage. Here, the extent and character of the lesion at the time of collapse should determine the duration of collapse treatment required. Let me emphasize again that the age of the lesion—i.e., whether early or old—is of no significance from the standpoint of collapse therapy. In fact, too early lesions should not be collapsed until they have revealed their tendency. Early lesions may soon advance to an extent and character as to require the maximal length of collapse. Collapse is often applied to an early small lesion that because of a positive sputum or positive gastric content is suspected of a tendency to softening. In such cases pneumothorax should not be maintained for more than a period of one or two years.

Perhaps it should be pointed out that the collapse therapy in early lesions is now con-

MEDICAL PREPAREDNESS

Registration of Men Between
the Ages of 45 and 64
on April 27, 1942

WHEN the Presidential proclamation was issued setting Monday, April 27, 1942, as the date for registration of all men between ages 45 and 64, Selective Service in New York City arranged for a Special Local Draft Board to sit in the Waldorf-Astoria Hotel on that date. In this way, provision was made so that members of the House of Delegates from *outside of New York City* would meet no interference with attendance at the meeting.

On April 2, 1942, a proclamation was issued by Governor Lehman opening registration by the Local Boards throughout New York State on the *two preceding days*, as follows:

Saturday, April 25, 1942—1:00 P.M. to 6:00 P.M.
Sunday, April 26, 1942—1:00 P.M. to 6:00 P.M.
Monday, April 27, 1942—7:00 A.M. to 9:00 P.M.

On this schedule it will be possible for all members concerned to register before leaving for New York City. However, they will still be able to register with the Board in the Waldorf-Astoria since Selective Service will maintain that arrangement notwithstanding the general change in schedule shown above.

Members living in New York City boroughs, who are not eligible to register with the Waldorf Board, will find it easier to visit their own local boards on Saturday, April 25 or Sunday, April 26, thus avoiding possible delay in reaching the Monday meeting.

LOUIS H. BAUER, M.D., *Speaker*
PETER IRVING, M.D., *Secretary*

management and outlook for the tuberculosis is pretty much the same as without the diabetics.

In summing up, let us briefly recapitulate:

1. In every case of chronic pulmonary tuberculosis, there is a time when the lesion is so early and minimal that treatment is but a matter of a few months of bed rest under the care of the general practitioner.

2. There is a critical period for all tuberculous lesions shortly following onset. In more acute cases this period is measured by

days or weeks, in more chronic lesions it extends over months. The decision for or against collapse must be reached on the basis of experience in judging events of this period.

3. Early diagnosis that will bring the patient under treatment when bed rest will still arrest the lesion will cut the process short in all but a few of the cases.

4. Initiation of collapse treatment at the optimum time on the basis of ripe judgment as to the trend of the process will effect cure in the majority of the cases.

THE THERAPEUTIC VALUE OF PUPPETS

The educational value of puppetry is less well known than its entertainment and commercial values, says an article by Jeanetta Lyle and Sophie B. Holly, R.N., in the *Bulletin of the Menninger Clinic*. Puppets have long been used in schools, however, where they lend themselves ideally to the teaching of such subjects as geography, history, home decoration, dress design, stagecraft, and dramatics. Their therapeutic possibilities in a program of re-education of the mentally ill have been recognized comparatively recently. Child therapy has utilized them most effectively in attempts to learn more about the nature of the child's conflicts which, with his limited vocabulary, he is unable to express adequately in words but can express in play with dolls and toys. A number of reports of this type of work with maladjusted children under the guidance of child analysts have been published.

The reaction of adult patients who may also be unable to express their conflicts verbally because of regression and strong inhibitions to puppet making and use has been less adequately studied, although some observations have been made. This method of recreation in a hospital is prescribed as is any other activity, mental or physical, for the purpose of contributing to lasting recovery from disease. It serves the therapist as a means of investigating the patient's difficulties and of helping him to solve them, and it helps the patient to dramatize his fantasies in a creative way. It leads almost inevitably to some kind of social relationship, because wherever there is a dramatic representation there must be an audience, even if it is only one person.

One of the best things about puppetry as a therapy is that it is so versatile. A puppet may play many roles, not only on the stage, but in the treatment of patients. For one person, the building of a being who walks and talks may satisfy a deep creative urge; for another, the complete control that he gains of the puppet's mechanism may expand his ego by giving him a sense of mastery; for another, the antics of the

puppet may express the exhibitionistic strivings that he cannot give vent to himself; and for another, the puppet may become an agent through which he can express inhibited aggressiveness

Sometimes a patient identifies himself with his puppet and cannot be parted from it, taking it to his room and even taking it home with him when he leaves the hospital. The puppet to him takes on a personality, just as Charlie McCarthy has developed an individuality for the radio public that is more real than that of many human performers. One young schizophrenic boy modeled a puppet that looked a little like himself. This puppet first played the part of Jack in *Jack, the Giant Killer*, and later appeared as Gluck in *The King of the Golden River*. Because of his ingenious expression and the hero parts which he played, he soon became the favorite of all the patients and his "master" enjoyed the reflected glory. He enjoyed playing with "Gluck," had him outfitted with a new suit in the women's occupational therapy department, and took the puppet home with him when he recovered sufficiently to leave the hospital, much to the regret of some of the other patients who had also grown fond of the little mannequin. It was quite evident in this case that the success of the puppet brought to this youth the renewed hope and interest in life that a human friend sometimes gives.

One rather touching example of this close identification with a puppet was shown in a presentation of Robinson Crusoe. A depressed schizophrenic man who was manipulating the puppet who took the part of Friday came to the lines where Friday begs Crusoe not to leave him behind on the island. Standing on the bridge over the miniature stage, the patient forgot all about pulling the strings of the puppet and turning to the therapist with tears streaming down his cheeks, he recited the passionate plea not to be left alone directly to the therapist.



{Continued from page 822}

Candidates for re-examination in Part II must make written application to the Secretary's Office before April 15, 1942.

As previously announced in the board booklet, this fiscal year (1941-1942) of the board marks the end of the two-group classification of applicants for examination. Thereafter, the board will have only one classification of candidates, and all will be required to take the Part I and Part II examinations.

The board requests that all prospective candidates who plan to submit applications in the near future request and use the new application form which has this year been inaugurated by the board. The Secretary will be glad to furnish these forms upon request, together with information regarding board requirements. Address Dr. Paul Titus, secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

Deaths of New York State Physicians

Name	Age	Medical School	Date of Death	Residence
Rollin O. Baker	59	P. & S. N. Y.	February 11	Montour Falls
Edwin A. Baumgartner	53	Univ. St. Louis	March 15	Newark
William J. Bernis	66	Harvard	March 3	Buffalo
Merton W. Brown	71	Albany	March 6	Columbia Center
Filippo Cassola	66	Naples	February 27	Manhattan
Harriet B. Clark	82	Ohio Med.	March	Altamont
James F. Coyle	59	Cornell	March 19	Manhattan
Alva G. Dunbar	53	Buffalo	February 23	Pulaski
Mary H. Eccles	90	W. M. C. N. Y.	March 17	Brooklyn
Hermann Fischer	70	P. & S. N. Y.	March 5	Manhattan
Leland D. Fosbury	65	Albany	March 1	Endicott
Marshall D. Gray	71	N. Y. Hom.	January 13	Shushan
Harry M. Greenwald	51	Univ. & Bell.	March 13	Brooklyn
Daniel G. Hastings	80	Harvard	March 21	Rochester
I. Seth Hirsch	62	P. & S. N. Y.	March 24	Manhattan
Claude A. Horton	74	N. Y. Hom.	February 14	Glens Falls
George N. Jack	72	Buffalo	January 12	Buffalo
Charles G. R. Jennings	82	P. & S. N. Y.	March 15	Elmira
Aspinwall Judd	73	P. & S. N. Y.	March 17	Manhattan
Jacob J. Levy	62	Syracuse	February 22	Syracuse
Thomas A. McGrath	54	Albany	February 10	Hoosick Falls
Walter H. McNeill, Jr.	56	Cornell	March 22	Manhattan
				Mount Vernon
				White Plains
Albertus A. Moore	67	So. Carolina Med.	March 23	Manhattan
Louis Neuwelt	60	P. & S. N. Y.	March 13	Manhattan
William H. Peer	74	N. Y. Univ.	February 22	Flushing
John Riegelman	69	Bell.	March 4	Mamaroneck
Daisy M. O. Robinson	72	George Washington	March 12	Meridale
Adrian C. Schoedel	32	Univ. & Bell.	February 17	Flushing
Isadore Seff	62	P. & S. N. Y.	December 20	Manhattan
Edward M. Shaffner	87	Buffalo	February 27	Salamanca
Henry R. Skeel	56	P. & S. N. Y.	March 22	Manhattan
William W. Smith	73	P. & S. N. Y.	March 2	Manhattan
Hubert R. Stiles	49	Vermont	February 11	Chazy
John Tinkler	62	Buffalo	March 9	Buffalo
Charles E. Townsend	71	N. Y. Univ.	March 16	Newburgh
James J. Walsh	76	Pennsylvania	February 28	Manhattan
Edward Whittier	76	Buffalo	March 9	Albion
Manfred M. Zachart	46	Berlin	February 17	Manhattan

Defense Savings Bonds

From the Defense Savings Committee for the State of New York, which operates under the National Defense Savings Staff, at 1270 Sixth Avenue, New York City, has come a request to publish the following information about the Defense Savings Bonds now on sale.—Editors

DEFENSE SAVINGS BONDS come in three issues, called E, F, and G. They are all registered bonds and are not transferable, which means that they cannot be sold and cannot be used as collateral for a loan, but they will be redeemed by the government before their maturity, at the request of the owner. They can be registered in the name of one individual, or in the names of two individuals as co-owners, or in the name of one individual as owner and another individual as beneficiary. They will be held for safekeeping without charge by any Federal Reserve Bank, if desired. They are all taxable, but only by the Federal Government, as to income, gift, or inheritance taxes.

The differences in the issues are as follows:

Series E. This is an appreciation bond. It pays no interest, but it is sold to the investor at a discount: \$18.75 for a \$25 bond, \$75 for a \$100 bond, etc., and if held for the full term the increase in value will be equivalent to 2.90 per cent compound interest.

It comes in denominations of \$25, \$50, \$100, \$500, and \$1,000 (maturity value).

Its maturity is 10 years from the date of issue.

The cost is three-quarters of its maturity value.

Only \$5,000 (maturity value) may be purchased by an individual in any one calendar year.

It will be redeemed by the government at any time after 60 days from the time of purchase, without capital loss but with diminution in the rate of increase in value.

Series F. This is also an appreciation bond, and if held for the full term the increase in value will be equivalent to 2.53 per cent compound interest.

It comes in denominations of \$100 up to \$10,000 (maturity value).

Its maturity is 12 years from the date of issue.

The cost is a little less than three-quarters of its maturity value.

Only \$50,000 (cost value) may be purchased by an individual in any one calendar year.

It will be redeemed by the government at any time after six months from the time of purchase, but only on the first day of the month and one month's notice is necessary.

It is redeemed without capital loss, but with diminution in the rate of increase in value.

Series G. This is a current income bond, paying 2.50 per cent a year; payments semi-annual.

It comes in denominations of \$100 up to \$10,000 (cost and maturity value the same).

Only \$50,000 may be purchased by an individual in any one calendar year. This same limitation applies to a combination of F and G bonds, a \$50,000 limit on F and G bonds together purchased in one calendar year.

It will be redeemed by the government at any time after six months from the time of purchase, but only on the first day of the month and one month's notice is necessary. It is redeemed at a discount.

Arrangements can easily be made with any Federal Reserve Bank or any Savings Bank for the purchase of these bonds. Checks may be sent to them regularly and the bank will buy the bonds and either send them to the purchaser or hold them in safekeeping. The checks need not be for the exact amount to purchase a bond. The bank will buy one when the amount in hand is sufficient and will hold over the surplus toward the purchase of the next bond.

In a bank (Savings Bank or otherwise) where you have a deposit, you may authorize the bank, until further notice, to charge your account so much per week and to buy the bonds as the amount becomes sufficient, while you make deposits at such intervals as may be convenient. In Savings Banks these deposits should be at least as much, in the course of a year, as the cost of the bonds purchased, so as not to deplete your savings account.

These bonds can be purchased at your local bank, at any Federal Reserve Bank, or at Savings Banks. Checks may be sent to them regularly and they will buy the bonds, and they will either send them to the purchaser or will hold them in safekeeping. In many Savings Banks there are arrangements by which an individual may deposit smaller amounts regularly, and they will buy a bond as soon as the amount becomes sufficient, holding over any surplus money as a start toward the purchase of the next bond.

EXAMINATIONS—AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

General oral and pathologic examinations (Part II) for all candidates (Groups A and B) will be conducted at Atlantic City, New Jersey, by the entire board, from Thursday, June 4, through Tuesday, June 9, 1942, prior to the opening of the annual meeting of the American Medical Association.

Group A, Part II, candidates will be scheduled for examination in the first part of the examination period, and Group B, Part II, in the latter half. Formal notice of the time and place of these examinations will be sent each candidate several weeks in advance of the examination dates.

{Continued on opposite page}

Woman's Auxiliary

To the Medical Society of the State of New York

IT'S spring again—and with spring comes your 1942 convention of the Medical Society of the State of New York. Tuning in for a bit of last-minute news, this is what I heard—a voice singing: "I like New York in April—what about you?"

"Mary, that song goes 'New York in June.'"

"Not this year, George. It's April—the convention. And don't forget, we have a date to take that spring vacation you promised."

"Right you are, Mary. Have you made reservations?"

"Yes, indeed, and the Waldorf sent me word today that from the doorman down to the last bellboy they are ready for the convention and our visit. So I'll pack our grip and we'll take that trip to New York Town."

How about you, sister members—did you extend that invitation I told you about to all doctors' wives? Tell them about the House of Delegates meeting on Monday afternoon and Tuesday morning, the auxiliary banquet on Monday night in the Starlight Roof, the dinner of the Medical Society on Tuesday night in the Grand Ballroom, the tea on Tuesday afternoon at Louis Sherry's, and the luncheon on Wednesday at Theresia Worthington Grant's.

Have you saved that penny and saved that dime, so I'll be seeing you at convention time?

Mrs. H. F. Pohlmann,
Convention Chairman

Another reminder: make your reservations for the Annual A.M.A. Convention, June 8-12. Send your request at once to Haddon Hall, Atlantic City, New Jersey.

County News

Columbia. A luncheon meeting was held on March 31 at the General Worth Hotel, Hudson. Mrs. Alfred Madden, state legislative chairman, was the guest speaker. This was an open meeting.

Fulton. Members of the auxiliary held their annual meeting and election on March 10 at the home of Mrs. J. Frederick Sarno. Officers elected are: president, Mrs. John A. Shannon; president-elect, Mrs. Louis Tremante; first vice-president, Mrs. John H. Larrabee; second vice-president, Mrs. J. J. Thompson; treasurer, Mrs. L. H. Backus; recording secretary, Mrs. Francis S. Hyland; corresponding secretary, Mrs. J. F. Sarno; historian, Mrs. Woodard Shaw; director, Mrs. J. Edward Grant; hospitality, Mrs. Robert Lenz; parliamentarian, Mrs. Arthur R. Wilsey; membership, Mrs. William J. Kennedy; publicity and press, Mrs. Austin Hogan; *Hygeia* and Red Cross, Mrs. H. B. Riggs; program, Mrs. B. G. McKillip; legislation, Mrs. R. T. Furlong; finance, Mrs. William F. Heseck; *Bulletin*, Mrs. A. J. D'Errico; public health and public relations, Mrs. Kenneth Foster. Following the business session, a social time was enjoyed and refreshments were served.

Jefferson. A silver tea for the benefit of the shut-in children at the Bide-A-Wee Hospital was held at the home of Mrs. Emmett B. Dunlay. The women who poured were Mesdames Robert G. Horr, Charles A. Phelps, Louis W. Moore, Charles T. Learned, Harold W. Conde, Henry H. Babcock, Percy H. Willmott, Valo A. Bradbury, and Maurice D. Barnette. On January 17 the Woman's Auxiliary participated in the sale of defense stamps under the direction of Mrs. Sutherland E. Simpson. Later in January, under the chairmanship of Mrs. Walter Fox Smith, more defense stamps were sold. Mrs. Wendell D. George, Mrs. G. Harry Righter, and Mrs. Emmett B. Dunlay also assisted. A regular dinner was held March 12 at the Black River Valley Club. The auxiliary held its meeting prior to the medical society meeting. Dr. F. R. Calkins addressed the auxiliary on "Cancer Control." The meeting then adjourned to give the women an opportunity to hear the address by Dr. George S. Nellis, a lieutenant-commander in the United States Naval Reserve, on "Civilian Defense Against Chemical Warfare."

Madison. A covered-dish supper was held at the home of Mrs. Otto Pfaff. Mrs. Lee S. Preston, president, introduced the guests of honor, Mrs. George B. Adams, state president, and Mrs. George C. Sincerbeaux, state corresponding secretary, both of Auburn. The members of the Doctors' Club of Oneida joined the ladies to honor Dr. and Mrs. Charles Earl. Dr. Earl recently left to join the United States Navy. Mrs. Earl is a past-president of the auxiliary.

Nassau. On April 28 at 2:00 p.m., a trip was made to Meadowbrook Hospital. The speaker was Dr. A. J. McRae.

Orange. The executive board of the Woman's Auxiliary met Tuesday, March 17, at the home of Mrs. J. Emerson Noll in Port Jervis. The members attending the luncheon and the business meeting which followed were: Mesdames W. W. Davis, N. T. Keyes, L. T. Seward, C. E. Fallon, J. W. McKeever, C. S. McWilliam, P. H. Faivre, H. F. Pohlmann, J. W. Walton, H. F. Murray, J. E. Noll, and G. E. Kenny. The president, Mrs. W. W. Davis, conducted the business session. Plans for the general meeting held in Middletown, April 2, and the annual convention to be held in New York, April 27-30, were discussed.

Schenectady. The public was invited to the Medical Auxiliary Nutrition Institute, March 25 and 26. Mrs. A. Grussner was chairman of the event. Exhibits illustrating the principles and practice of nutrition filled the solarium both days. These exhibits included movies, skits, panel discussions, and lectures.

We congratulate, and welcome to our midst, Livingston County, whose president is Mrs. Kenneth T. Rowe.

Postgraduate Medical Education

Programs arranged by the Council Committee on Public Health and Education of the Medical Society of the State of New York will henceforth be published in this section of the JOURNAL. Members of the committee are Oliver W. H. Mitchell, M.D., chairman (428 Greenwood Place, Syracuse); George Baehr, M.D.; and Charles D. Post, M.D.

Sulfonamide Therapy

A course of three two-hour sessions, arranged by the Council Committee on Public Health and Education, Medical Society of the State of New York, and the New York State Department of Health, for the Orange County Medical Society, is to be held at the Horton Memorial Hospital, Middletown, at 8:00 P.M.

FIRST SESSION, Tuesday, May 12—Behavior of Sulfonamides in the Body and Principles for Their Use.

Alexander D. Langmuir, M.D., deputy commissioner, Westchester County Department of Health, Peekskill.

Local and Internal Use of Sulfonamides in Surgery.

Frank Glenn, M.D., assistant professor of clinical surgery, Cornell University Medical College, New York City.

SECOND SESSION, Tuesday, May 19—Treatment of Genitourinary Infections in the Male.

Thomas F. Laurie, M.D., associate professor of urology, Syracuse University, College of Medicine, Syracuse, New York.

Sulfonamides in Obstetrics and Gynecology.

R. Gordon Douglas, M.D., associate professor of obstetrics and gynecology, Cornell University Medical College, New York City.

THIRD SESSION, Tuesday, May 26—Treatment of Pneumonia.

L. Whittington Gorham, M.D., professor of medicine, Albany Medical College, Albany, New York.

Treatment of Meningitis.

Harry Bakwin, M.D., associate professor of pediatrics, New York University Medical College, New York City.

This instruction is a cooperative endeavor of the New York State Department of Health and the Medical Society of the State of New York.

Maternal Welfare Teaching Day at Albany

A regional Maternal Welfare Teaching Day is being held Wednesday, April 15, at the Albany Hospital, Albany, under the auspices of the following organizations: the maternal welfare committees of Albany, Columbia, Rensselaer, Saratoga, Warren, and Washington counties; the Albany Medical School; the Northeastern New York Obstetrical and Gynecological Society; the Division of Maternity, Infancy, and Child Hygiene of the New York State Department of Health; and the New York State Medical Society.

The meeting will convene at 12:00 noon, with Dr. Joseph O'C. Kiernan, regional chairman in obstetrics, Maternal and Child Welfare Committee of the New York State Medical Society, presiding, and Dr. R. S. Cunningham, dean, Albany Medical College, introducing the scientific addresses.

The first of these will be a paper on "Chemotherapy in Obstetrics," by Dr. Ferdinand J. Schoeneck, associate professor of clinical obstetrics, Syracuse University College of Medicine. The session after luncheon, which will be served at the hospital at 1:00 P.M., will be given over to addresses by Dr. Edward C. Hughes, professor of clinical obstetrics, Syracuse University College of Medicine, on "Toxemias of Pregnancy"; Dr. Vincent P. Mazzola, instructor in obstetrics and gynecology, Long Island College of Medicine, Brooklyn, on "Complications of Pregnancy: Heart Disease, Tuberculosis, and Diabetes"; and Dr. Schoeneck, on "Proposed Consultation Service in Obstetrics."

The program committee consists of Drs. John G. Hayes, Kenneth M. Archbold, Joseph W. Cooney, Jacob L. Lochner, Jr., and Mary D. Pettit. The committee on arrangements includes Drs. Thomas O. Gamble, William J. Fitz-Gerald, G. Emery Lochner, Alfred L. Madden, and Paul Schultze, Jr.

Make Your Hotel Reservations

....NOW! The Annual Meeting is less than two weeks away. The date: April 27-30; the place: The Waldorf-Astoria, New York City.

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PHYSICIAN IN "NEW-YORK"

The hyphenation of New York is the publisher's in a book printed in 1806 and written by Shadrach Ricketson, "physician in New-York." The following abstract, taken from a copy purchased by Dr. David Hosack, who was an intimate friend of George Washington and Benjamin Franklin, appears at the front of the book and is apparently a form of copyright.

The material reads:

District of New-York, etc.

(L.S.) Be it remembered, That on the twenty-ninth day of August, in the thirty-first year of the Independence of the United States of America, Shadrach Ricketson, of the said District, hath deposited in this Office the title of a book, the right whereof he claims as Author in the words following, to wit:

"Means of preserving Health and preventing Diseases; Founded principally on an attention to Air and Climate, Drink, Food, Sleep, Exercise, Clothing, Passions of the Mind, and Retentions and Excretions, With an appendix, containing Observations on Bathing, Cleanliness, Ventilation and Medical Electricity; and on the Abuse of Medi-

cine. Enriched with apposite extracts from the best Authors. Designed not merely for Physicians, but for the information of others. To which is annexed a Glossary of the Technical Terms contained in the Work—By Shadrach Ricketson, Physician in New-York."

In conformity to the Act of the Congress of the United States, entitled "An Act for the Encouragement of Learning, by securing the copies of Maps, Charts and Books to the Authors and Proprietors of such copies during the times therein mentioned;" and also to an Act entitled "An Act supplementary to an Act entitled 'An Act for the Encouragement of Learning by securing the copies of Maps, Charts and Books to the Authors and Proprietors of such copies during the times therein mentioned,' and extending the benefits thereof to the arts of designing, Engraving and Etching historical and other prints."

Edward Dunsecomb

Clerk of the District of New-York

Today we just print "Copyright 1942" and leave the rest to the imagination.

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Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N. Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and interest to our readers.

RECEIVED

- Food and Beverage Analyses.** By Milton A. Bridges, M.D., and Marjorie R. Mattice, M.S. Second edition. Octavo of 344 pages. Philadelphia, Lea & Febiger, 1942. Cloth, \$4.00.
- Clinical Hematology.** By Maxwell M. Winrobe, M.D. Octavo of 792 pages, illustrated. Philadelphia, Lea & Febiger, 1942. Cloth, \$10.
- Source Book of Medical History.** Compiled with notes by Logan Clendening, M.D. Octavo of 685 pages. New York, Paul B. Hoeber, Inc., 1942. Cloth, \$10.
- Modern Sanitary Engineering for the Use of Architects, Surveyors, Engineers, Medical Officers of Health, Sanitation Officers, Builders, and Students.** By G. Eric Mitchell. Octavo of 169 pages, illustrated. Brooklyn, Chemical Publishing Company, 1942. Cloth, \$5.00.
- Nasal Sinuses. An Anatomic and Clinical Consideration.** By O. E. van Alyea, M.D. Octavo of 262 pages, illustrated. Baltimore, Williams & Wilkins Company, 1942. Cloth, \$6.50.
- Psychiatry in Medical Education.** By Franklin G. Ebaugh, M.D., and Charles A. Rymer, M.D. Octavo of 619 pages. New York, Commonwealth Fund, 1942. Cloth, \$3.50.
- Essentials of General Anaesthesia with Special Reference to Dentistry.** By R. R. Macintosh, M.D., and Freda B. Pratt Bannister, M.D. Second edition. Octavo of 334 pages, illustrated. Oxford, England, Blackwell Scientific Publications, Ltd., 1941. Cloth, 25 shillings.
- Diseases of Metabolism. Detailed Methods of Diagnosis and Treatment. A Text for the Practitioner.** Edited by Garfield G. Duncan, M.D. Quarto of 985 pages, illustrated. Philadelphia, W. B. Saunders Company, 1942. Cloth, \$12.
- Encephalitis—A Clinical Study.** By Josephine B. Neal, M.D. Octavo of 563 pages. New York, Grune & Stratton, 1942. Cloth, \$6.75.
- Röntgen Treatment of Infections.** By James F. Kelly, M.D., and D. Arnold Dowell, M.D. Octavo of 432 pages, illustrated. Chicago, Year Book Publishers, Inc., 1942. Cloth, \$6.00.
- Skin Grafting from a Personal and Experimental Viewpoint.** By Earl C. Padgett, M.D. Quarto of 149 pages, illustrated. Springfield, Charles C. Thomas, 1942. Cloth, \$4.50.
- Methods of Treatment in Postencephalitic Parkinsonism.** By Henry D. von Witzleben. Octavo of 164 pages. New York, Grune & Stratton, 1942. Cloth, \$2.75.
- A Manual of Maladies Influenced by Oxalic Acid Poisoning, viz., Industrial Myositis Fibrosa, Occupational Schizophrenia, and Experimental Wassermann and Kahn Tests.** By Abel C. Anthony, M.D. Octavo of 85 pages, illustrated. Chicago, the Author, 4254 Indiana Avenue, 1941. Cloth, \$2.00.
- The Eclipse of a Mind.** By Alonzo Graves. Octavo of 722 pages. New York, Medical Journal Press, 1942. Cloth.
- How to Organize Group Health Plans.** By Martin W. Brown, LL.B., Katharine G. Clark, and Perry R. Taylor. Duodecimo of 72 pages. Boston, Joint Committee of the Twentieth Century Fund and the Good Will Fund and the Medical Administration Service, Inc., 31 Milk Street, 1941. Paper, 25 cents.
- The Diseases of the Basal Ganglia. Proceedings of the Association for Research in Nervous and Mental Disease, December 20-21, 1940. Volume XXI.** Octavo of 719 pages, illustrated. Baltimore, Williams & Wilkins Company, 1942. Cloth, \$10.
- Communicable Disease Nursing.** By Theresa I. Lynch, R.N. Octavo of 678 pages, illustrated. St. Louis, C. V. Mosby Company, 1942. Cloth, \$3.75.
- The Treatment of Burns.** By Henry N. Harkins, M.D. Quarto of 457 pages, illustrated. Springfield, Charles C. Thomas, 1942. Cloth, \$6.50.
- From Infancy Through Childhood.** By Louis W. Sauer, M.D. Duodecimo of 200 pages, illustrated. New York, Harper & Brothers, 1942. Cloth, \$2.00.
- Industrial Surgery, Principles, Problems and Practice.** By Willis W. Lasher, M.D. Enlarged First Edition. Octavo of 472 pages, illustrated. New York, Paul B. Hoeber, Inc., 1942. Cloth, \$6.50.
- A Manual of Pharmacology and Its Applications to Therapeutics and Toxicology.** By Torald Sollmann, M.D. Sixth edition. Quarto of 1,298 pages. Philadelphia, W. B. Saunders Company, 1942. Cloth, \$8.75.
- Surgery of the Ambulatory Patient.** By L. Kraeer Ferguson, M.D. Octavo of 923 pages, illustrated. Philadelphia, J. B. Lippincott Company, 1942. Cloth, \$10.
- Neural Mechanisms in Poliomyelitis.** By Howard A. Howe, M.D., and David Bodian, M.D. Quarto of 234 pages, illustrated. New York, Commonwealth Fund, 1942. Cloth, \$3.50.
- The Jamaica Hospital. A History of the Institution, 1892-1942. Written and Compiled by F. G. Riley, M.D.** Octavo of 172 pages, illustrated. Jamaica, Medical Board Jamaica Hospital, 1942. Cloth, \$5.00.
- "...But Collections Are Awful."** By Robert Foster Ash. Octavo of 104 pages. Binghamton, N. Y., the Author, 164 Washington Street, 1942. Cloth, \$2.00.
- The Conquest of Bacteria from Salvarsan to Sulphapyridine.** By F. Sherwood Taylor. Octavo of 175 pages. New York, Alliance Book Corporation, 1942. Cloth, \$2.00.

[Continued on page 828]

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"SHOCK TREATMENT" IN GREAT-GRANDFATHER'S DAY

Long before the first electric light, electric machine,
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 interested in electricity medically. In fact as early as
 1806 a medical author devoted an entire chapter to
 "Medical Electricity"—a chapter that consumed an entire
 page.

This is what he had to say—"Electricity being one of
 the most powerful stimulants, its effect may be consid-
 ered both as general and local. It promotes a free circula-
 tion of the blood, and increases animal heat and perspi-
 ration, as well as all the secretions and excretions of the
 body. It has been frequently used, of late, both as a pre-
 ventive and cure of many diseases. Without enumerat-

ing them all, it will be sufficient to say, that it has been
 found most successful in the following: rheumatism,
 gout, kings-evil, palsy, St. Anthony's fire, St. Vitus's
 dance, epilepsy or falling sickness, gutta serena, nervous
 head-ach, tooth-ach, suppression of the menses, contrac-
 tions and cramps of the limbs, and in various obstruc-
 tions, tumours and ulcers.

"And it has, also, been found one of the most effectual
 means of resuscitating persons apparently dead from
 drowning, suffocation, and other like causes."

Evidently the author ran out of cases in which elec-
 tricity might be indicated, but he could not have missed
 many known to doctors in that era.

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[Continued from page 826]

The Principles of Neurological Surgery. By Loyal Davis, M.D. Second edition. Octavo of 503 pages, illustrated. Philadelphia, Lea & Febiger, 1942. Cloth, \$7.00.

The Horses of the Sun. By Dr. Kathryn M. Whitten. Octavo of 314 pages. Boston, Meador Publishing Company, 1942. Cloth, \$2.00.

Pediatric Gynecology. By Goodrich C. Schauffer, M.D. Octavo of 384 pages, illustrated. Chicago, Year Book Publishers, 1942. Cloth, \$5.00.

Medical State and National Board Summary. By William H. Kupper, M.D. Octavo of 369 pages, illustrated. Paterson, N. J., Colt Press, 1942. Cloth, \$4.50.

A Manual of Endocrine Therapy. By Bernard L. Cinberg, M.D. Octavo of 178 pages. Brooklyn, Chemical Publishing Company, 1942. Cloth, \$3.25.

A Textbook of Surgery. By American Authors. Edited by Frederick Christopher, M.D. Third edition. Quarto of 1,764 pages, illustrated.

Philadelphia, W. B. Saunders Company, 1942. Cloth, \$10.

The Retina. The Anatomy and the Histology of the Retina in Man, Ape, and Monkey, including the Consideration of Visual Functions, the History of Physiological Optics, and the Histological Laboratory Technique. By S. L. Polyak, M.D. A Fiftieth Anniversary Publication of the University of Chicago Press. Quarto of 607 pages, illustrated. Chicago, University of Chicago Press, 1941. Cloth, \$10.

Allergy in Clinical Practice. By Staff Members of the Cleveland Clinic, under the Direction of Russell L. Haden, M.D. Edited by J. Warrick Thomas, M.D. Octavo of 354 pages, illustrated. Philadelphia, J. B. Lippincott Company, 1941. Cloth, \$5.00.

The Premature Infant: Its Medical and Nursing Care. By Julius H. Hess, M.D., and Evelyn C. Lundeen, R.N. Octavo of 309 pages, illustrated. Philadelphia, J. B. Lippincott Company, 1941. Cloth, \$3.50.

REVIEWED

Encephalitis—A Clinical Study. By Josephine B. Neal, M.D. Octavo of 563 pages. New York, Grune & Stratton, Inc., 1942. Cloth, \$6.75.

The coincidence of the publication of Dr. Neal's latest book, *A Clinical Study of Encephalitis*, at the very onset of World War II is interesting, since encephalitis was one of our heritages from the first World War. The sequelae of that epidemic of encephalitis are still with us, presenting a problem to medical men in general, neurologists in particular, and to draft board and army physicians. Dr. Neal, with her fourteen years' experience on the Matheson Commission preceded by her association since 1910 with the Bureaus for the Study of Infectious Diseases of the Central Nervous System, has a unique position as an authority second to none in the United States on encephalitis. The completeness of this study from every point of view is characteristic of her attitude toward the problem she has undertaken to face. Her observations and conclusions are objective and scientific. The book in itself is not only extraordinarily interesting reading but is a source book that will be valuable to students, general practitioners and, most of all, to neurologists, from whom post-encephalitic patients seek relief from their tragic disease.

KATE CONSTABLE

Surgery of the Heart. By E. S. J. King, M.D. Octavo of 728 pages, illustrated. Baltimore, Williams & Wilkins Company, 1941. Cloth, \$13.50.

In 1896 Rehn recorded the first successful operation upon a living heart—the suture of a wound—although as early as 1650 Riolanus had suggested the possibility of tapping the distended pericardium. Surgery of the heart has progressed rapidly since the beginning of this century with increasing tempo in the most recent years. As Dr. White says in his introduction: "The surgeon who would attempt the treatment

of diseases of the heart must have the courage and optimism of the explorer and be equipped to justify their exploitation."

Although this book consists of over 700 pages and although surgery of the heart has progressed in our day far beyond even the dreams of all previous time, the really practical results are still quite limited. It is, therefore, to the physician, as well as to the surgeon, that the author speaks. It will be possible for cardiac surgery to advance only as the physician learns the possibilities of surgery. The lamp is but just lighted—it needs oil. The cardiologist almost always sees the heart patient first. If he knows what the surgeon has accomplished in solving some of these difficult heart problems, he may aid by his encouragement and knowledge in extending this field.

The first section of the book is devoted to the anatomy, physiology and pathology, and special examinations of the heart, emphasizing the most recent advances found in a wide study of the literature. The main body of the volume considers the surgery not only of the heart itself but also of the pericardium, coronary, and great vessels. The frequent repetitions of the text and bibliography are not accidental. It is the aim to make each subject complete in order that these sections may be used for rapid reference. This makes the work a little more difficult to read in continuity from cover to cover, until the reader becomes accustomed to sensing and skipping the repeated parts.

The author is to be congratulated upon the way he has kept such a voluminous and authoritative book up to date.

WILLIAM H. FIELD

Diseases of the Nails. By V. Pardo-Castello, M.D. Second edition. Octavo of 193 pages, illustrated. Springfield, Charles C. Thomas, 1941. Cloth, \$3.50.

The second edition of this book includes some

[Continued on page 830]

NEW YORK STATE JOURNAL OF MEDICINE

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Editorial

War Shortage of Drugs and Medical Appliances

The subcommittee of the Committee on Public Health Relations of The New York Academy of Medicine has done a noteworthy piece of work in surveying, with the help of representatives of leading drug manufacturers and distributors and from several divisions of the government, forthcoming shortages in essential medical materials. The medical profession has read of the shortages in the essential materials for industry, the priorities which have now been established in many lines, but it has more or less assumed that in some way the basic materials used in the practice of medicine would continue to be available.

However, the supply of drugs from many foreign countries has been drastically curtailed or completely shut off. Lack of shipping facilities has made belladonna and colchicum practically unavailable. Drug substances used in the manufacture of war equipment—alcohol, phenol, glycerine, magnesium, mercury and zinc—are becoming less and less obtainable.

The Army and Navy are taking for immediate use, and storing up against possible future needs, vast supplies of quinine, morphine, sulfa drugs, bandages, surgical instruments, and the like. Lend-Lease requirements are also taking a heavy toll. Materials in this category are being sent to Britain, Australia, India, South Africa, China, Free France, Soviet Republics, and Central and South Ameri-

can Republics. There are priority rulings on materials used in packaging—tin plate and lead, and it is probable that the use of paper cartons and wooden packing cases will shortly be curtailed.

Transportation is developing acute shortages and deliveries are being accomplished under greater and greater difficulties. The U. S. Pharmacopoeia has relaxed storage requirements for some drugs such as ergot and made official substitutes for codliver oil.

The report of The New York Academy of Medicine urges that hospitals and surgeons exercise the utmost economy in the employment of operating-room and other materials and apparatus; that in prescription work tablets and capsules be substituted for elixirs, tinctures, fluid extracts, and preparations containing syrups and glycerine. It is also recommended that every step, including subsidy, be taken to favor the production in this country of certain vegetable drugs hitherto imported. The Academy very sensibly urges that steps be taken to produce in this country previously imported or manufactured items and that official drugs and their preparations together with certain newer chemical drugs be given priority over unofficial and proprietary preparations. In the Medical Preparedness section of this issue may be found the complete report, on page 916, adopted by The New York Academy of Medicine on March 9, 1942.

[Continued from page 828]

new illustrations and references; otherwise it is much the same as the first edition.

The author has produced a small volume on diseases of the nails which is worthy of his great effort in observation, preparation, and production. Here one will find descriptions of all the common and unusual pathologic conditions that affect this cutaneous appendage.

Its division into "Affections Peculiar to Nails," "Unequal Manifestations of Systemic Diseases," and "Congenital Affections of the Nails" gives one an insight into the scope of the work. Since many of the changes in the nails are not characteristic of a specific disease and others are fairly characteristic, the complete elucidation under each heading is helpful.

Finally, there is a list of the occupations in which diseases of the nails are common and a shorter list giving the unequal symptoms due to poisons such as arsenic, aniline, acetanilid, etc.

The book is well written and well illustrated and is produced in a fashion to merit consideration.

E. ALMORE GAUVAIN

Occupational Diseases. Diagnosis, Medico-legal Aspects and Treatment. By Rutherford T. Johnstone, M.D. Octavo of 558 pages, illustrated. Philadelphia, W. B. Saunders Company, 1941. Cloth, \$7.50.

An excellent book has been added to the increasing number of publications on occupational diseases. The author has divided his book into eight parts, each of which deals with a specific group of occupational diseases. The symptomatology of the individual occupational disease is discussed, and then the medicolegal aspects are presented, fortified with suitable case reports.

Much of the recent literature has been included. The chapter on treatment of lead poisoning has been brought up to date to include some discussion on the controversy that exists concerning calcium and phosphorus therapy. Both sides of the controversy are presented. The dust diseases, including the discussion of the relationship of silicosis to tuberculosis, is well presented.

There are many excellent illustrations and x-ray reproductions. The films demonstrating the various stages of silicosis are excellent. The chapter on the "industrial back" is well discussed and the illustrations are adequate. The occupational dermatoses are well illustrated and the discussions of the various types of dermatitis are short.

The book is well recommended because it embraces, in its 558 pages, a brief discussion of the most important occupational diseases and gives the interested reader an adequate bibliography should more detailed information be desired.

With the increasing interest in industrial medicine, this book has a definite place in the growing library on occupational diseases.

IRVING GREENFIELD

Blood Disorders in Children. By I. Newton Kugelmass, M.D. Octavo of 897 pages, illustrated. New York, Oxford University Press, 1941. Cloth, \$10.

This work consists of six sections and an appendix. The subject matter covers with encyclo-

pedic detail the diseases of the erythron, leukon, thrombon, and reticulo-endothelium system. The last chapter deals with the blood pictures in miscellaneous diseases not strictly hematologic.

Whether for pediatrician or adult practitioner this book offers a "multitude" of hematology. At times this appears overwhelming. One misses the congeniality of the author that is so frequent in textbooks on medicine. In physics or chemistry, perhaps congeniality may have no place, but in a book on human beings one welcomes it.

The part on symptom diagnosis is confusing and adds little to offset the already overburdensome encyclopedic trend. Outstanding is the historical comment on the pioneers of hematology.

MAURICE MORRISON

Gynecology and Female Endocrinology. By Emil Novak, M.D. Octavo of 605 pages, illustrated. Boston, Little, Brown & Company, 1941. Cloth \$10.

Dr. Novak has produced a well-planned, excellently organized, and comprehensive text covering the field of diagnostic gynecology and female endocrinology. A minimum space is devoted to topics with which the author feels the reader should be familiar. Though the chapters on anatomy, history-taking, and gynecologic examinations have been reduced to essentials, these subjects have been thoroughly reviewed.

The text is devoted chiefly to diagnosis and therapy. An outstanding feature is that the author does not attempt to discuss operative technique or the discussion of surgical

operation. Such an organization permits the author to summarize in a volume of less than 600 pages the newer contributions that endocrinology has provided in the study of gynecologic physiology and disease.

The author has correlated the anatomic pathology with the altered physiology of gynecologic processes which so often exists as the basis for the disturbed function. As an instance, one can refer to his discussion of ovarian tumors.

The practical considerations of treatment in the endocrinopathies are concise yet complete. With the state of developmental flux of endocrinology at the present time the great value of such a review is that it can well serve as a starting point for future consideration of any given problem in which the reader may be interested.

The author is gifted with an understanding of the contributions from other branches of medicine to gynecology. Specifically, one can recommend his discussion of such diverse topics as "Backaches in Women" and "Problems of Sex-Life."

The wealth of illustrated material, photographs, photomicrographs, including colored plates and diagrams, is outstanding and adds lucidity to the text. Moreover, the inclusion of selected references at the end of each chapter enhances the value of the text as a reference source.

Gynecology and Female Endocrinology by Dr. Emil Novak can be recommended as a text for the student, as a ready reference book for the general practitioner, and as a review of the late developments for the specialist.

MORRIS GLASS

The Cold in Industry

In our all-out efforts to produce the material needed to equip our forces and those of our allies, medicine has an enormous responsibility. We must keep the men and women fit to carry on their work. Probably the greatest cause of industrial incapacity is the common cold, and as yet nothing has been found to prevent it in the manner in which some other epidemic diseases are preventable. Anything in the line of treatment that holds forth promise must therefore be given trial.

Townsend¹ successfully treated a certain type of acute recurrent rhinitis with staphylococcus toxoid and these patients had no return of the infection for at least one year. This type gave the history of frequent afebrile colds, and more or less constant pain in the neck and shoulders. On testing with the allergens, negative skin reactions were obtained. Culture from the nasal mucous membrane yielded

¹ Townsend, K. E.: *Ann. Otol., Rhin. & Laryng.* 50: 1189 (1941).

Staphylococcus albus in almost pure culture. It is recommended that this be taken during the active phase of the disease.

Before treatment with the toxoid is started, sensitivity to its use should be determined by a skin test, using 100 units per cubic centimeter. Treatment is effected by the subcutaneous injection of 1,000 units of toxoid per cubic centimeter, the dosage being increased over an eight-week period from 0.03 to 0.12 cc., depending upon the severity of the skin reaction of the previous week. Where this reaction exceeds 5 cm. in diameter, the therapeutic dose should not be increased.

This low-dose method of treating this type of acute and chronic respiratory infections should be given extensive trial by industrial physicians. Should it succeed in achieving the results Townsend claims for it, it will reduce substantially the number of work hours lost by sickness, hours that are of such vast import at present.

Priorities Might Help

It is always a pleasure to read an article which is filled with the sound medical horse sense of the passing generation of real clinicians. Such an article is that by Smith¹ in our own *JOURNAL* of December 15 last. Flying in the face of the much vaunted "glamour" of our dear ladies, he sings the praises of breast feeding! He points out that breast-fed babies have fewer digestive upsets, and are less susceptible to infections of the upper respiratory tract. The gain in weight of the infant is surer and steadier in the early months and the chances for survival are greater.

There are many factors which have contributed to the almost complete disappearance of breast feeding among women in the middle and upper economic brackets. Their social obligations, the tendency to assign the care of the infant to a nurse, and the pandering of the physician to the natural vanity of the mother instead of explaining the advantages of breast feeding—all these are but a few.

¹ Smith, C. H.: *N. Y. State J. Med.* 41: 2395 (1941)

Then again, with the increase in health education for the laity, the fear of the deficiency diseases and the overemphasis on the various vitamins has led many a mother and her medical adviser to view breast milk as lacking in adequate supply of these substances. As Smith shows, from his long experience at the Bellevue Hospital in New York City, ascorbic acid is present in sufficient quantity in breast milk when the mother eats citrus fruits regularly. And a sufficient quantity of sunlight on the baby's skin is equal to codliver oil in its efficacy.

Of course, the mother must be instructed as to how properly to feed her child at the breast. Nursing too long predisposes to cracked nipples and may make the mother irritable. During the period of weaning, proper guidance is necessary. But all in all, the old saw that, "mother's milk is best for the baby and cow's milk is best for the calf," holds true, and priorities may yet help us to remember it.

This JOURNAL urges upon the Society a most careful reading of the full report and recommendations. It is to be hoped that every physician remaining in civilian

practice will give his earnest and serious attention to this urgent and vital matter. The Academy is to be congratulated upon a splendid research in the public interest.

The Doctors' Dilemma

Much of the attention of medical men is now centered upon the third enrollment of men under the Selective Service Act. The age group, 20-45, is that which affects most seriously the medical students and the younger practicing physicians. Fortunately, the armed forces appear determined that the quality of medical services shall not deteriorate. In consequence, it now seems certain that the continuity of medical education and discipline will not be interrupted but that students in good standing in all acceptable medical schools will be taken into the Medical Administrative Corps.

The younger graduates in medicine, those in reputable practice under the age of 36, will now be principally affected. Speaking at the National Conference on Medical Service in Chicago, on February 15, 1942, Major Sam F. Seeley, executive officer of the Procurement and Assignment Service, said that as of that date about 25,000 enrollment cards had come in to the Service. There are about 65,000 physicians in the country under the age of 45. No man presumably will be assigned to duty by the Surgeon General unless first cleared by the Procurement and Assignment Service. It may be well to stress here that the P. and A. Service has no authority to assign anybody, at any time, or to any place. Medicine, through the P. and A. Service, is the only group in the United States permitted to render its service wholly under the direction of physicians. All business and industry on the contrary is now under government control of some sort.

If the present arrangement for procurement is not disturbed, these physicians entering the armed services will be more nearly fitted into the places for which they are qualified by education and practice than any other group.

The outlook for the men who are not

called to serve with the armed forces is not so clear. The organization of civilian defense still leaves much to be desired. The experience of other countries in this war as pointed out by Dr. Herman N. Bundeson, president of the Board of Health of Chicago, is that about 50 per cent of enemy activities are directed toward the civilian population. If that is to be our experience also, one could wish that a little more realism, more adequate funds, and some authority could be spared by the government for this kind of civilian protection and especially for the emergency medical service, which, for all its willingness to serve, is ill equipped, confused as to organization, and only in a few places sufficiently drilled and integrated with civil protection units.

It is difficult to understand how the P. and A. Service can operate to assign physicians not physically fit for military service or over age to function with a civilian defense organization, which does not seem to know just what it is, where it is going, or what it will do when it gets there. And yet this is the problem confronting those physicians who will not be called for duty with the armed forces but are yet charged with the proper medical care of the civilian population, which is at least as likely to be attacked with great viciousness as the Army or the Navy.

We are inclined to feel that the organization and immediate intensive training of civilian physicians and hospitals for care of war casualties and civilian defense is almost as important at this juncture as the obtaining of medical men for the armed forces. We hope they will shortly be given the serious attention they deserve. Medical Service, under O.C.D., should not become a social program or be left as a mere gesture on a paper.

George W. Cottis, M.D.

George W. Cottis, M.D., was born March 18, 1880, in Guelph, Ontario, Canada, and came to the United States at the age of eleven years. He supported himself as a Western Union messenger boy and later as an able seaman. At seventeen he entered high school, graduating a year and a half later.

He then taught district school in Genesee County, later entering Cornell University on a State scholarship. He graduated in Medicine in 1904, taking an internship at Bellevue Hospital, Fourth Division, after which he began the practice of medicine in Batavia, New York, as assistant to Dr. W. D. Johnson.

In 1912 he moved to Jamestown. Shortly after, World War I broke out. Dr. Cottis in 1916 applied for service in the British Army, serving as a member of the Harvard Unit in early 1917, in France. After America entered the War he was commissioned in the Royal Army Medical Corps as first lieutenant, and was stationed at base hospitals 22 and 26 at Camiers and Etaples, where he did surgical work. He was ordered in June, 1917, near Château-Thierry to reinforce a casualty clearing station, then served in French emergency hospitals, earning the rank of captain. Shortly before the Armistice he applied for a commission in the American Army, but the war came to a close before his transfer became effective.

Once again a resident of Jamestown, New York, Dr. Cottis became third vice-president of the Medical Society of the State of New York in 1919. About this time he also became a Fellow of the American College of Surgeons when this Society was organized, and was a member of the Founders' group of the American Board of Surgery. From 1920 to 1931 he served as delegate from Chautauqua County to the State Society, and was first vice-president of the Eighth District Branch, 1924-1927, becoming president of that body in 1926. At this time also he was a member of the Board of Censors of the State Society. In 1928 he was elected an alternate delegate to the A.M.A. in which capacity he continued to serve through 1932, acting also during the same period as vice-speaker of the House of Delegates of the State Society. In 1930, he was appointed by Governor Roosevelt a member of the New York State Health Commission on which body he served with distinction.

In 1933, he became a trustee of the Medical Society of the State of New York in which capacity he served through 1940, becoming chairman of the Board of Trustees for the year 1938. In 1941, he served as president-elect.

Dr. Cottis is also an honorary member of the Western New York Surgical Association, and chief of Emergency Medical Service in Jamestown.



Symposium on Trauma—Its Early Treatment

TREATMENT OF HEAD INJURIES

FRED W. GEIB, M.D., Rochester, New York

THERE is no set routine of treatment in these cases and the literature is full of variations of opinion. In the past two decades there has been a slow but steady recognition of certain fundamental therapeutic procedures. We will not take up in detail the neurological aspects of these cases, but will consider the immediate problems that confront the physician or surgeon who is summoned to the bedside of the patient.

Accident

The care of the patient at the scene of the accident is usually out of our control. By the time an ambulance arrives, he has been moved about by willing but medically ignorant laymen. Frequently he is taken to the hospital in an ordinary car because an ambulance is not available or because the well-meaning spectators think it is the proper thing to do. Fractures, spine injuries, shock, respiratory embarrassment, etc., mean nothing to the laity.

Actually, the patient should be wrapped in all available clothing to keep him warm, placed in a prone position very gently, and no attempt should be made to straighten crooked legs, etc. Wait until more expert help arrives before moving him. This all sounds very well to say and reads well but it is done only occasionally. We might as well accept the situation, because there appears to be very little we can do to change it. The laity exchange common sense for excitement at the scene of a serious accident.

Shock

The patient is brought into the emergency room. Serious cases are in shock and we direct our initial treatment to combating this. If the patient is critically injured and in desperate condition, it is expedient not to move him very much. Do not take off his clothes; just loosen them about the neck and waist. The temperature at this time is often subnormal; even if it is normal, the patient may be cold and clammy. Blankets and hot-water

bottles are placed about him. If he is vomiting, or bleeding from nose or mouth, he should be placed on his side if possible, to prevent aspiration. Likewise, if his color is poor, be certain that the tongue has not fallen back into the pharyngeal area. Suction should be available at the bedside in case he vomits, or blood and mucus fill the throat. Under this regimen, the greater percentage of these cases will recover from the initial or primary shock. We shall discuss supplementary remedy under the subjects of fluids and medication.

Oxygen

For the past two years, we have been using nasal oxygen in cases that show anoxemia and air hunger. It improves the blood oxygenation, as shown by the return of normal color, and reduces the marked respiratory effort. It appears to conserve the strength of the patient and may quiet him. Cerebral edema is increased by anoxemia and we think that oxygen has a definite usefulness in this type of case. If the patient is restless and does not tolerate a nasal tube, or if his nasal passages are filled with blood, we suspend a large funnel over his mouth. Thus he will receive oxygen because it is heavier than air and will gravitate into his mouth and about his face. Oxygen tents are too cumbersome and too complicated to use at this time. We believe that this is a valuable therapeutic measure in such cases, and helpful in general shock. Also, it is available at any hospital and easy to use. Six to 8 L. a minute is the average flow of oxygen used.

Injuries

Many cases of head injury are complicated by chest, abdominal, bone, and laceration injuries. Fractures can be splinted, pillows, and sand bags, or traction splints may be used, but no reduction or manipulation should be done. Immobility is all that is needed at this stage. It is important to check the abdomen and place a urinal in bed to collect a specimen when the patient voids. Test the urine for sugar, especially in older patients, because diabetes is not uncommon.

If the patient has a serious abdominal injury

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, May 1, 1941.

Correspondence

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April 13, 1942

To the Editor

You are doubtless familiar with the difficulties involved in getting camp physicians.

The Boy Scouts of Greater New York operate a number of camps around New York City, chief of which are the Ten Mile River Scout Camps which house 3,500 Scouts and leaders at a time during the months of July and August.

Normally we have used nine physicians, all of whom have been licensed to practice in New York State. Under the existing conditions we are prepared to adjust our plans to operate with as few or as many medical men as we can obtain and to compensate men as it becomes necessary.

In the past, considering most of the men have been interns, we have paid \$200.00 for the season of two months. We have adjusted our salary schedule upward so we will pay \$300.00 a season for the men we may be able to secure. Should

we be able to secure only a few men who would have to assume responsibility for the entire plant, we, of course, would have to be prepared to pay considerably above the scale as outlined.

While we would prefer to have men for the entire eight weeks' season, we will be glad to consider men for periods of two weeks or longer.

We feel that in view of the importance of Scout training and the camping experiences in preparing boys for their later service on behalf of the nation that the camps should be continued, and, of course, health education and the prevention of accidents and illness is a matter of primary importance.

Sincerely yours,

ALFRED C. NICHOLS, JR.
Director of Camping

Physician Wrongly Reported

To the Editor

Some days ago a booklet entitled "The Vassar Diet" was brought to my notice. It asserts that I have used or recommended this diet. Even the name of Mr. Vassar was unknown to me. A publication of mine is wrongly reported as referring to this diet and one-sidedly as to its contents which applied to another Viennese preparation that may or may not be similar to the Vassar diet.

A letter which I sent to the enterprise remained unanswered. It forbade any use of my name and requested the withdrawal of this or any similar advertisement from circulation.

Will you be so kind as to publish this letter?

Respectfully yours,

ALBERT MUELLER-DEHAM, M.D.

239 Central Park West, New York City
April 2, 1942



Buy U. S. Defense Bonds and Stamps



Compound Comminuted Fractures

All these cases are operative cases. Meticulous operating-room technic should be employed. Imbedded bone fragments must be removed and rough, depressed areas smoothed off and raised. Do not cut off the dural tags so long as they are attached. Smooth them out over the brain. Deeply imbedded fragments that cannot be seen from the surface should be left strictly alone and no probing done. More damage than good will be done by probing. Horax in a recent paper shows a very satisfactory way of removing such fragments, but the equipment and experience necessary may not be available. The important thing is to clean up the wound and try to close the skin flaps accurately. These cases are drained.

Infected Scalp Wounds

When a wound becomes infected, open it at the most dependent area and insert a soft rubber drain. Do not open it wide because the outer table may be exposed and dry out. Also, the skin edges will retract and leave a wide scar.

X-Rays

We are not concerned with the fracture of the skull, but with the damage to the contents of the skull.^{1,2} There is not one indication for an immediate x-ray of the skull. What are you going to do after you have it? It doesn't change the treatment one iota. The moving and the handling may shock the patient additionally and may rob him of the slim chance of survival. There may be the question of a depressed fracture. It is advisable to raise a depressed fracture when the condition of the patient warrants such an operation. We must consider the cases as semielective procedures. Glaser and Shafer have reported the end results in 91 patients who have had immediate, late, and elective operations for depressed fractures.³ They conclude that the surgery performed was not a factor in preventing sequelae. This is a splendid paper and is well worth reading by all of us who see head injury cases.

Fluids

A patient in shock may not respond to the quiet-and-warmth treatment. He may have lost a great deal of blood. Plain 5 to 10 per cent glucose and normal saline solutions, given slowly in amounts of 100 to 500 cc., are helpful but not sustaining. We use whole blood in severe hemorrhage cases and blood serum in

all other cases. Blood serum is available in our blood bank and can be given without regard to blood type. About 200 cc. of blood serum is given slowly and then more can be given as the condition of the patient demands. Hypertonic fluids are contraindicated in shock. All our severely injured cases are typed and matched routinely as soon as they are brought into the emergency ward. In this way valuable time is saved when the order goes out to give blood. Blood serum is of tremendous help and is becoming available for use in more and more hospitals. The severely injured and the unconscious patients are automatically put on "nothing by mouth" until the surgeon responsible for the case changes this order. This procedure prevents the patient from choking on or aspirating fluids.

Medication

Morphine, sedatives, and hypnotics are not used during the acute phases of the condition. They will mask the most important sign we have to observe—the degree of consciousness. Morphine also has a tendency to increase intracranial pressure.⁴ Morphine may be needed to ease pain and so decrease shock in cases that have other fractures. We have seen disastrous results following the use of adrenalin. Caffein hypodermically, or coffee by rectum, may be used safely. Time and time again we are asked about using phenobarbital when the patient is restless or having convulsions. If there is any chance of its masking symptoms, do not use it. In convulsive complications, use it, but remember that the question of a subdural or extradural hemorrhage must be ruled out. When we use it, we give only $\frac{1}{4}$ grain hypodermically at one time and repeat the same dose from time to time. This prevents overdosing the patient. Of course, in convulsive complications we give intravenously an initial larger dose of $\frac{1}{2}$ to 1 grain. Subsequent amounts are given as indicated.

Tetanus Antitoxin

All laceration cases receive tetanus antitoxin. When there are no shock or head symptoms, the antitoxin is given immediately. If the patient has been in shock, or has been unconscious, tetanus antitoxin is not given for twenty-four hours. If his condition is poor, and he is hovering between life and death for several days, we delay giving him the antitoxin during this time and may never give it. Practically all children have had horse-serum injections, and many are sensitive to it. Never give tetanus antitoxin in a head injury case

that requires immediate attention, and it is a life-or-death matter, then one must disregard the head injury and operate when the general condition will permit. Chest injuries in older people give us more concern than fractures. The nasal oxygen helps more than anything else in these cases.

Lacerations

All lacerations should be sutured as soon as possible. If the patient is in a critical condition, it is necessary only to prevent active bleeding by using clips, packs, or clamps. The scalp bleeding may be controlled by applying clamps to the galea and pulling them back over the skin edges. One must take great care in repairing the most trivial scalp wound to prevent infection or granulation, because one never knows whether a skull operation will not be necessary in a few hours or days. As soon as the patient improves and is out of shock, the following procedures are carried out.

Shave a large area about the wound, so that there is no chance for hair to drag across the wound. The hair along the border can be held down by using green soap solution. Take care that no hair strands are missed at the laceration edges.

The wound is then washed with tincture of green soap and irrigated with sterile saline. Small sponges can be used to wash the soap over the wound. Do not use cotton balls because they fray, and we all know how hard it is to find such blood-soaked strands in a wound. The procedure should be repeated until the wound is clean.

It may be necessary to anesthetize the area before anything can be done. A loose pack soaked with 2 per cent novocain is placed in the wound. If this is not effective, local may be injected into the scalp some distance from the cut edges.

So far very little discomfort has been suffered by the patient. The next step is to investigate every cranny, to pick out hair, dirt, and old blood clots, and cut out devitalized tissue. The skin edges should be trimmed of any suspicious-looking devitalized tissue. All this can be done gently and without much discomfort in many cases where local anesthesia has not been used.

What active antiseptics should be used at the time of closure? Sometimes we use ether as a solvent and antiseptic before closing the wound. The use of iodine and alcohol has been given up because both the substances are great coagulative agents. Water-soluble antiseptics can be used, and they do not produce

the pain that tincture-soluble antiseptics do. As a rule we use any one of the commercially prepared tincture antiseptics. We believe that it is the careful cleansing and débridement of the wound that counts rather than the effect of antiseptics.

If a bleeding vessel can be isolated, it is tied off with fine gut. We do not bury any suture material in the subcutaneous tissue. Silk or dermal sutures are used to close the skin edges and they are not placed any closer together than is necessary to get accurate close approximation of the wound.

If large skin flaps have been raised by the trauma, sterile sponge rubber can be placed in the outer dressings to produce mild constant pressure on the flaps. The wound is dressed daily to be examined for infection.

Small rubber tissue drains are used in wounds when it is impossible to clean them satisfactorily, and the drain is inserted at the most dependent portion of the wound. The drain is loosened at the end of twenty-four hours and slowly shortened so that it comes out on the third or fourth day.

In some cases it is not advisable to do very much to the wounds. It may be six or twelve hours before they can be completely cleaned up. Occasionally a patient receives first medical attention hours after the laceration has occurred. If the wound is dry and the soft tissues glazed, it is not advisable to close it without drainage. The longer a wound goes without closure, the more apt one is to drain it. If a wound cannot be closed immediately, try to keep it from drying out by approximating the skin edges with adhesive straps. This will give a better chance to close it tightly some hours later.

Compound Fractures

All compound fractures should be reduced to simple fractures as soon as possible. This applies to the skull too. We have been told to suture the pericranial tissues over the fracture line. Personally I have rarely seen enough tissue to use for such a suture. In plain compound fractures, follow the same procedure for repair of the wound as if the fracture did not exist. When blood or cerebrospinal fluids drain from an ear, the ear is washed with an antiseptic and a sterile dressing is applied to cover the entire ear. No antiseptic is put into the canal and no probing or otoscopic examination is done. No cotton is used to plug up the canal and dam back the fluid. All such procedures are liable to stir up an infection with a resulting meningitis.

are attached in a manner that permits snug application of the splint. If such apparatus is not available, a broad board may be passed beneath the patient without moving him and the head, trunk, and legs securely fastened thereto, or a ladder type of wooden splint may be used as a substitute. For the thoracic and lumbar injuries, the method of rolling the patient onto a stretcher, back up, as suggested by Stookey, is effective protection. Rough handling, lifting the patient by the shoulders and legs, or rolling, except in log fashion, are to be strictly avoided.

When admitted to the hospital all patients with physical findings indicative of spinal cord or nerve root damage should be placed on an air or sponge rubber mattress. The traditional board beneath a hard mattress is unessential, even though neural damage has not been sustained. If an injury of the cervical region is suspected, halter traction should be temporarily applied following the removal of the splint used during transportation. Supportive measures for the treatment of shock, if present, are to be instituted, and the patient should be made comfortable with narcotics, provided complaints or signs suggesting brain or visceral injury are not present. At this time a roentgen-ray study of the region under suspicion should be carried out with the patient in bed and without undue manipulation. If injury of the spinal cord or nerve roots has not been sustained, it is frequently advisable to keep the patient under observation for twenty-four to forty-eight hours before subjecting him to treatment directed at the reduction of the deformity. In some instances in which injury of the spinal cord or nerve roots is present, measures directed at a re-alignment of the damaged bone, particularly dislocations, are to be instituted as soon as shock or other complications have been brought under control.

Fracture, Dislocation, and Fracture-Dislocation of the Vertebral Column Without Injury of the Spinal Cord or Cauda Equina

Under this heading are included the fractures and dislocations uncomplicated by spinal cord and cauda equina injury and the cases of vertebral fracture associated with radicular pain resulting from encroachment upon the nerve roots at the intervertebral foramina. This latter group is relatively small, and usually the pain subsides following reduction of the fracture. Occasionally, rhizotomy may be required at a later period to

bring the pain under control. Needless to say, accurate diagnosis of all fractures and fracture-dislocations of the vertebral column cannot be made without detailed roentgenographic studies of the implicated area. Attempts to reduce suspected bony injuries before such an examination has been completed are not justified. Associated lesions of traumatic origin involving other structures must be given proper consideration, multiple injuries being frequently encountered. Once the issues have been evaluated and it has been determined that the major consideration is the reduction of the bony lesion of the vertebral column, the choice of method to be employed will depend on the vertebral level of the injury and the character of the deformity.

Cervical Injuries

Several methods have been devised for the reduction of traumatic lesions of the cervical vertebrae. We have given most of them a trial; however, the results have not been consistently gratifying. These procedures have been arranged in four groups for convenience of discussion. (1) The most conservative and the commonly employed one—traction by means of a halter—has given the least satisfactory results. Furthermore, this method is poorly tolerated by the patient; ingestion of food and fluids is difficult and the application of sufficient weight to effect reduction of the fracture often produces pressure necrosis of the skin over the lower jaw or occipital region of the scalp. (2) Stookey's method¹ of permitting the head to hang unsupported over the end of a firm mattress with the patient lying supine can be used only in fully cooperative patients. Even under ideal conditions the results following this procedure have not been uniformly good in our hands. (3) Taylor's method² of manual reduction under anesthesia has been successfully employed, but the inherent dangers during the manipulation and the difficulty in maintaining a complete reduction after it has been attained preclude its general applicability. (4) In our experience direct skeletal traction using the tongs designed by Crutchfield³ has given most satisfactory results (Fig. 1). Any desired degree of flexion or extension of the cervical spine may be obtained by appropriate selection of the site for exerting traction. Patients so treated are comfortable and may lie on either side or on the back, and the movements of the jaw are unrestricted. Rarely, the outer table of the skull is found to be soft; consequently, in such instances the weight for trac-

without doing a skin test. We have seen very severe reactions from horse serum that almost caused death, because of too early administration of the antitoxin after shock and unconsciousness. Likewise, in several cases, the latent reactions in very closely compensating cases have proved almost fatal.

We do not have the time to take up the routine orders, the use of lumbar puncture and of hypertonic fluids, and the indications for craniotomies. We have discussed these points in detail in a previous paper.⁵

Following extensive injuries to the skull and in osteomyelitis of the skull, there are cranial defects. These may be important from a plastic viewpoint, as well as from the consideration of lack of protection to the brain underlying them. Grant and Norcross have reviewed all the methods of cranioplasty within time memorial.⁶ The author has devised a vitallium skull plate operation and will now show a moving picture of the first operation performed.⁷

Summary

1. Treat the patient for his shock and do nothing that may increase shock.
2. Oxygen is very helpful for relieving respiratory effort and anoxemia.
3. Meticulous care should be given all scalp wounds.
4. Blood serum is of great help in cases of prolonged or severe shock.
5. Do not x-ray the skull immediately.
6. Bedside observation and constant vigilance through the first few hours may save what appears to be a hopeless case.

1100 Park Avenue

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TREATMENT OF FRACTURES OF THE SPINE WITH AND WITHOUT NEURAL INJURY

JEFFERSON BROWDER, M.D., and RICHARD GRIMES, M.D., Brooklyn

THE recorded observations relative to the effect of trauma to the vertebrae, the spinal cord, and the nerve roots have established the important features in the diagnosis of these lesions in the vast majority of patients so injured. Several clinical entities have been delineated, and the pathologic physiology pertaining to each is fairly well understood. There still exists, however, considerable diversity of opinion concerning therapy, and it is with this aspect of the subject that the discussion in the present paper is concerned.

In an effort to present our experiences as objectively as possible, the cases of "fracture of the spine" which have come under our care at the Kings County Hospital during the past ten years have been reviewed. Although many methods of treatment have been tried, only those that have given consistently good results will receive detailed consideration. There were a total of 401 cases, 255 with fracture, dislocation, or fracture-dislocation, with-

out clinical evidence of neural damage; 125 with both bone and neural injury; and 21 with evidence of neural damage without roentgenographic findings of vertebral fracture or dislocation. The series does not include uncomplicated fractures of the transverse and posterior spinous processes of the vertebrae. Also excluded are those cases in which the spinal cord and nerve roots were damaged by penetrating foreign bodies. The mortality for the entire series was 16.9 per cent.

Treatment for all patients with clinical signs suggesting a vertebral column fracture should be instituted by the ambulance surgeon or others who may be required to assume the responsibility of transportation. All manipulations should be carried out in a manner that minimizes the possibility of increasing the deformity of the vertebral column. In order to accomplish this the spine must be splinted. A satisfactory method for immobilization of the cervical spine is the application of a broad aluminum splint to the patient's back, including the hips, constructed with an extension that has been molded to receive the occiput. Properly placed straps

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From the Service of Neurological Surgery at the Kings County Hospital.

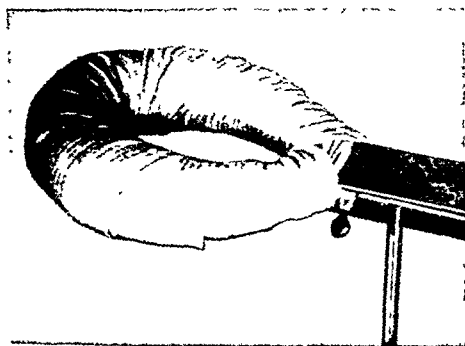


Fig. 3. Adjustable apparatus for the support of the head and chest used during reduction of a lower thoracic or lumbar vertebra fracture and the application of the cast. The apparatus was devised in order to prevent stretching of the brachial plexus, a complication that we occasionally encountered in using the Watson-Jones or Davis method.

the vertebral column. All of these maneuvers have in common this principle—hyperextension of the vertebral axis. Whether this be accomplished slowly by placing the patient, lying on his back, across a convex surface, the curvature of which is gradually increased (Bradford frame, Roger bed, etc.) or by having the hyperextension more rapidly attained (Davis method, Watson-Jones method, etc.) depends on the type of lesion, the age, the status of nutrition, and the cooperativeness of the patient. The use of an extension frame of the Bradford type for cooperative patients usually results in satisfactory reduction. Many patients encountered in a city hospital are somewhat refractory; therefore, one is often obliged to resort to a more rapid reduction followed by fixation with a plaster cast. During the past seven years we have used a modification of the Davis method for the reduction of lumbar and lower thoracic bone injuries. With the patient under general anesthesia (rectal, intravenous, or some type of inhalation anesthesia) and lying prone on a fracture table, the distal one-third of both legs is well padded and tied together. The legs are then securely attached to a block and tackle arrangement swung from an overhead bar. The trunk and head are supported by a device (Fig. 2) constructed so that it does not interfere with the application of a cast after reduction has been accomplished (Fig. 3). With the patient in the desired position, the lower extremities are drawn upward in order to produce hyperextension of the lumbar vertebral column, while the operator, standing at the side, stabilizes the trunk with one hand

TABLE 1.—CHARACTER OF LESIONS AND COURSE

SEGMENT INVOLVED	□	◻	◻	◻	○	×	CASES	DEATHS
CERVICAL								
I	2	2	1		1	1	7	3
II	1	3			1	12	17	1
III	3	1	1		2	3	10	4
IV	2	5				3	10	2
V	15	8			7	5	35	16
VI	13	7		1	1	5	27	14
VII	4	5		3		4	15	7
THORACIC								
I	1						1	1
II								
III						1	1	
IV	2	3				1	6	2
V	1			1		4	6	2
VI						2	2	
VII	1	2				9	12	1
VIII	1	5				7	13	1
IX		1				5	6	
X	1	2			1	6	10	1
XI						8	8	
XII	1	7	1			27	36	2
LUMBAR								
I	5	8			1	65	79	5
II	2	7	1			35	45	3
III	2				2	21	25	2
IV						14	14	
V						4	4	
SACRAL								
	1					9	10	1
TOTALS	59	66	4	5	16	251	401	66

Key Bone Damage ◻, Neural Injury ○, Death □

and applies pressure with the other over the site of the fracture or dislocation. In some instances it becomes necessary alternately to flex and extend the lumbar spine to break up an impacted fracture or to disengage a locked dislocation. Throughout all such maneuvers the patient is maintained in the suspended position and, following reduction, a full trunk plaster cast is applied. After a period of two and one-half to three months of bed rest, a spinal brace may be substituted for the plaster cast and the patient may be made ambulatory. Physical activity should be limited for another month. In the average case the spinal brace is worn for seven to eight months.

Fracture of the Sacrum

Injury of this part of the spinal column may be associated with fracture of other portions of the pelvic ring. There were nine fractures of the sacrum in the present series. The fragments were not displaced; therefore, bed rest for a minimal period of two months was the only form of therapy used.

Fracture, Dislocation, and Fracture-Dislocation of the Vertebral Column with Injury of the Spinal Cord and/or Cauda Equina

There were 146 cases in the series that presented clinical evidence of injury to the neural structure within the vertebral canal. In 125 cases there was roentgen-ray evidence of bone injury, whereas 21 showed no evidence of fracture or dislocation of the vertebrae although



FIG. 1. Appearance of the traction apparatus with Crutchfield tongs in position.

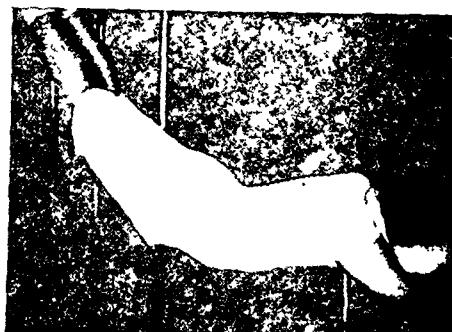


FIG. 2. Position for closed reduction of a lower thoracic or lumbar vertebral fracture.

tion should not be increased too rapidly, lest the pins break through the bone. Infection of the scalp or the skull has not been encountered, although in some instances the apparatus has been left in place for ten weeks. In all cases except one in which skeletal traction was employed the tongs were inserted shortly after the injury. The patient, representing the exception, had sustained a dislocation of the sixth on the seventh cervical vertebra six and one-half months previous to the institution of the treatment. A good reduction of the dislocation was obtained but not until the weight used for traction had been progressively increased to 50 pounds over a three-day period. Our experience indicates that skeletal traction should be continued for not less than four weeks and, in some instances, for a slightly longer period, particularly in dislocations. Although reduction may be effected in a few hours, secondary displacements frequently occur when the traction is discontinued too soon. Following removal of the skeletal traction, the neck should be immobilized by a brace or plaster cast for an additional five or six months, or occasionally longer according to indications. Satisfactory results may be obtained by using any type of cervical brace which adequately immobilizes the neck. Although it would be advantageous to completely support the head, as yet no apparatus accomplishing this has been constructed.

Thoracic Injuries (T_1 to T_{12} , Inclusive)

As shown in Table 1, fractures of this portion of the thoracic spine (the fixed part of the vertebral column) are relatively infrequent. If a mild compression of one of these vertebral bodies is limited to its anterior aspect, application of a fixation apparatus that immobilizes the thoracic and lumbar spine in a mild position of hyperextension without an attempt at

reduction will give satisfactory functional results. Injuries that have compressed the vertebral body to two-thirds of its normal width or more should be reduced using the Ryerson automobile-jack method.⁴ While this procedure for the reduction of a fracture of a thoracic vertebra is not uniformly successful, it theoretically offers maximum hyperextension of a relatively short segment of the spine. Associated fractures of the pedicles, laminae, or posterior spinous process of the involved vertebra are a distinct contraindication for the use of this method. With the patient lying in the supine position the head of the jack is placed directly beneath the posterior spinous process of the affected vertebra. Slowly the patient is elevated by the jack, while a mild counter pressure is applied over both the sternal and pelvic regions. Following adequate hyperextension, a fixation cast is applied incorporating the head of the jack. The latter is removed after completion of the procedure. The period of bed rest is variable; two weeks may be advisable for some, notably those of advanced years, whereas younger patients are kept in bed to advantage for a longer time. The total period of fixation in a hyperextended position, either by means of a brace of the Taylor type or a light plaster jacket, should not be less than four months.

Lower Thoracic and Lumbar Vertebral Injuries

The tenth, eleventh, and twelfth thoracic vertebrae are included with the lumbar vertebrae, since the treatment of fractures or dislocations implicating any of these segments of the spinal column involves the same principles. As obtained for bony injuries affecting the cervical region, several methods have been described for the re-alignment of deformities of traumatic origin involving this portion of

reason that all abnormal alignments of the cervical vertebral column associated with evidence of spinal cord injury should be corrected as soon as possible. This may be accomplished in fresh injuries within a few hours time by properly applied traction. This manner of reduction does not interfere with respirations that are already frequently embarrassed. The mortality in this group of cervical cord injuries was 51.1 per cent. The patients who survived were largely those presenting clinical evidence of partial interruption of the cord. Traction should be continued in these for the usual four- to six-week period. Immobilization of the neck by brace or plaster cast should then be instituted if the patient is physically capable of assuming the erect posture in bed or is to become ambulatory. As in simple fractures of the cervical vertebrae, immobilization of the neck is to be continued for a period of six to eight months.

Spinal Cord Injuries of the Thoracic Region (T₁ to T₁₂, Inclusive)

There were only 18 cases of injury of the spinal cord between the first and ninth thoracic vertebral levels, inclusive. If fracture is present, the treatment for this is no different from that outlined for uncomplicated fractures in this region, with the exception that a plaster-of-paris jacket should not be applied lest decubitus results. Following reduction, a blanket roll should be placed beneath the sponge-rubber mattress in a suitable position to maintain mild hyperextension of the vertebral column. If only a partial physiologic interruption of the spinal cord is present, a plaster-of-paris jacket or a suitable brace may be applied at the end of three months and the patient may be allowed out of bed. A spinal support should be worn for an additional period of four to six months.

Spinal Cord and Nerve Root Injuries of the Thoracolumbar and Lumbar Regions

In all, there were 39 cases of injury of the distal spinal cord and/or cauda equina. Many presented physical signs of a bizarre nature, difficult of precise interpretation. This was especially true in those instances in which the bone lesion involved the twelfth thoracic and/or the first lumbar vertebrae. In all cases, existing bone deformation should be reduced and the patient should be placed on a sponge-rubber mattress as suggested for lesions located in the thoracic spinal cord. The reduction of a dislocation may not be completely maintained by this method;

however, plaster casts should never be used when complete analgesia and anesthesia of the skin over the buttocks are present. Following some improvement in partial lesions of the cauda equina, it becomes necessary to apply a brace or a comparable means for the support of the back. Subsequent treatment of these patients will depend on the degree of recovery in function of the lower extremities.

Injuries of the Cauda Equina in the Sacral Region

There was only 1 instance of fracture of the sacrum with associated injury of the regional sacral roots. Treatment for the local lesion was bed rest on a sponge-rubber mattress.

Care of the Urinary Bladder, Bowel, Skin, and Skeletal Musculature

The treatment of vertebral fractures and the commonly associated spinal cord and nerve root injury would present relatively few difficult problems were it not for complications. Urinary sepsis, decubitus ulcers, and contractures of involved extremities are the outstanding ones. The appearance of any of these should be considered an indication that inappropriate therapy had been instituted or that proper measures had been carried out in an incompetent manner. Clinical evidence of irreparable neural damage should not deter the surgeon from inaugurating any treatment that may be an aid toward prolongation of life.

Urinary Bladder

There does not appear to be unanimity of opinion among those of experience regarding the treatment of the retention of urine which commonly follows spinal cord or cauda equina injuries. The majority of patients with this complication are catheterized, and the urine is drained away as soon as it is discovered that the urinary bladder is distended. This almost invariably leads to a cystitis and, later, pyonephritis, a single catheterization being sufficient to inoculate the bladder. The three methods that have been tried by us have been: (1) emptying of the bladder by intermittent catheterization, followed by irrigation with an antiseptic solution; (2) the use of an indwelling catheter with periodical irrigation of the bladder by means of a Y-tube arrangement, Munro's tidal drainage method, or McKenna's apparatus; and (3) manual expression of the urine by suprapubic pressure on the fundus of the bladder. The first of these methods should never be resorted to

obvious damage of the spinal cord or cauda equina had been sustained. In the instances in which no roentgen-ray evidence of bone injury was present and subsequent opportunity was afforded to examine carefully the area under suspicion at autopsy, there were findings indicating that the spinal cord had been damaged by a dislocated vertebra that had spontaneously reduced itself.

From a therapeutic point of view the major question that confronts the surgeon is whether the spinal cord or cauda equina has been completely or partially interrupted by the trauma. Partial physiologic interruption of the cord usually denotes *hematomyelia per se*. Complete interruption, on the other hand, usually signifies that the fiber tracts have been severely contused or this in association with hemorrhage into the gray columns. *Hematomyelia* may be limited to a relatively small zone, especially in the cervical region, with motor dysfunction of the forearms and hands and minimal, if any, clinical evidence that the commissural or long tracts have been involved. The hemorrhage may implicate the spinothalamic and pyramidal tracts predominantly in one-half of the cord, producing motor paralysis on the same side as the lesion and loss of appreciation of pain and temperature on the opposite side. Then, too, relatively large hemorrhages into the gray column bilaterally result in motor paralysis and a sensory dissociation somewhat comparable to that observed in *syringomyelia*. These traumatic syndromes have been more completely described in a previous communication.⁵ In any event, the function of the dorsal columns is the last to be abolished in *hematomyelia*. In the thoracolumbar region the pathologic alterations are frequently a combined spinal cord and nerve root injury. Seldom are clinical findings observed indicative of a pure *hematomyelia* implicating the lumbosacral swelling of the cord. Only 3 such cases have been observed in this series. The injuries of the cauda equina are varied, depending upon the degree of trauma inflicted.

Considerable importance has been attached by some to the presence or absence of a spinal subarachnoid obstruction as demonstrated by the Queckenstedt test in the case of spinal cord and cauda equina injuries. These authors have considered the presence of a block sufficient indication for laminectomy. However, we have observed both partial and complete obstruction of the spinal subarachnoid space released by re-alignments of the fractured or displaced vertebrae, while in other instances

the subarachnoid block has persisted for several days following reduction. Several cases of incomplete spinal cord lesions have revealed progressive improvement in function during a period when complete spinal subarachnoid obstruction could be demonstrated. For example, a patient with clinical evidence indicating a partial lesion of the cervical spinal cord of traumatic origin recently came under our care. Roentgen-ray examination disclosed no abnormalities of the vertebrae. A complete spinal subarachnoid block was repeatedly demonstrated, and this persisted for seven days, during which time there was a progressive improvement in function of the involved extremities. In brief, it is our opinion that the continuance of a demonstrable spinal subarachnoid obstruction after re-alignment of a fracture or fracture-dislocation of vertebrae is not in itself sufficient evidence to warrant the performance of a laminectomy. A subarachnoid block associated with clinical evidence of increasing spinal cord dysfunction is an indication for operation. Lastly, operation for the release of a complete spinal subarachnoid block coexisting with clinical findings indicating the presence of a complete physiologic interruption of the cord since the time of the injury may, on theoretic grounds, be indicated. In our experience, however, operation under these conditions is a futile gesture and has long since been abandoned. There were only 13 laminectomies performed in this entire series. Eleven of these were on patients with evidence of complete physiologic interruption of function of the spinal cord. No improvement followed operation and all 11 patients subsequently died.

Cervical Spinal Cord Injuries

In the present series there were 88 instances of injury of the cervical spinal cord, 72 associated with fracture, dislocation, or fracture-dislocation of the cervical vertebrae and 16 cases without bone lesion demonstrable by roentgen-ray examination. After considerable experience with several methods, it is at present our practice to apply direct skeletal traction as soon as feasible following admission to the hospital. While it is probable that the maximum narrowing of the vertebral canal occurs at the time of injury and that the disturbance of function in the vast majority of patients with spinal cord injuries is due to alterations within the cord itself, one cannot say that encroachment upon the lumen of the vertebral canal by a displaced vertebra may not exert some deleterious effect. It is for this

gesting spinal cord or cauda equina injury should be placed on an air or sponge-rubber mattress upon admission to the hospital. There is no substitute for this precautionary measure. Three or four hours on an average hospital mattress is sufficient time to produce ischemic changes in the skin and subcutaneous tissue overlying body prominences which frequently result in necrosis and ulceration. Even an equal distribution of weight to all cutaneous surfaces in contact with the bed, as obtains when a patient is on a sponge-rubber mattress, is not enough precaution to prevent decubitus sores. If complete functional interruption of the spinal cord or cauda equina is present, gentle massage of the skin, over bony prominences in particular, is to be carried out every four to six hours for the first week following injury. This may be accomplished without moving the patient by compressing the mattress with one hand and massaging with the other. The sacral region and the heels are the most vulnerable points and, therefore, require major attention. A bed cradle should be placed over the legs and feet lest the bed clothes produce necrosis of the tips of the great toes.

For the prevention of foot drop some type of support should be devised, constructed with a soft surface that comes in contact with the soles of the feet. It is unwise to apply adhesive plaster directly to the plantar surfaces and attach it to a traction apparatus as is frequently done in other conditions for the prevention of foot drop. After the patient had recovered sufficiently to permit passive movement of the paralytic extremities without producing pain in the back, full flexion, extension, and rotary movements of each implicated joint should be carried out twice or three times daily. Before and after these

manipulations, the skeletal muscles should be massaged without undue rubbing of the skin.

The treatment of the skin, joints, and skeletal muscles in patients with vertebral injury without evidence of neural damage is in no wise different from that accorded any patient confined to bed for a long period.

Summary

1. The case histories of 401 patients admitted to the Neurosurgical Service of the Kings County Hospital in a ten-year period (1930 to 1940) have been reviewed.
2. Methods for the immobilization of the spine during transportation have been suggested.
3. The use of skeletal traction for cervical fractures, the automobile jack for thoracic fractures, and the authors' modification of the Davis method for the reduction of fractures of the lower thoracic and lumbar spine have been described.
4. Fractures of the vertebrae and/or dislocations associated with neural injury should be reduced as promptly as the general condition of the patient permits.
5. The relatively infrequent indications for laminectomy are emphasized.
6. The management of urinary retention without catheterization has been outlined.
7. The use of the sponge-rubber mattress for the prevention of cutaneous ulceration is advocated.

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THE TREATMENT OF INJURIES TO THE ABDOMEN

FENWICK BEEKMAN, M.D., New York City

THE subject of treatment of injuries to the abdomen is a large one, as it includes not only penetrating wounds but also other types of intra-abdominal injuries in which penetration has not occurred. Any one of the pelvic or abdominal organs may be injured and, as the treatment of each differs, it is necessary

for the surgeon in charge to have not only a knowledge of abdominal surgery but also ability in diagnosis, judgment, and operative skill. The diagnosis of these many conditions is of such great importance that it is difficult to entirely separate it from the treatment.

Today, with the large number of accidents on our highways, abdominal injuries have become much more common than they were in the past. Such injuries may be frequently

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since patients so treated almost unfailingly develop signs of urinary bladder and renal infection. Most surgeons elect to use the indwelling catheter in conjunction with irrigation. The Y-tube method presents but few technical difficulties and is probably the one most widely employed. Some degree of urinary tract infection, however, may be expected to accompany its use. Our experiences with Munro's tidal drainage and the apparatus of McKenna have been too limited to critically appraise their effectiveness. In an effort to eliminate the use of an indwelling catheter, we have extensively employed manual expression of the urine by suprapubic pressure. Furthermore, the use of this procedure facilitates the establishment of automatic urination. The method of manual expression of the urine by suprapubic pressure should be instituted by a competent person who is familiar with the procedure. Difficulty may be encountered in overcoming the spasticity of the internal vesicular sphincter during the first twenty-four to forty-eight hours following injury. The abdominal pressure required to initiate the flow of urine may produce some discomfort in instances in which the spinal cord lesion is incomplete or if the lesion has implicated the distal cord or cauda equina. The important details of the method as used by us are as follows: A mark with weak silver nitrate solution is made across the lower abdomen, halfway between the symphysis pubis and the umbilicus. Whenever percussion or palpation indicates that the fundus of the bladder has reached this level, manual expression of as much urine as possible is to be carried out. It cannot be too strongly emphasized that the urinary bladder must be emptied whenever the fundus reaches the mark on the abdomen and *not* at stated intervals. If the procedure is executed with care each time the bladder fills to the stated level, one can expect automatic emptying to take place sometime between the tenth and twenty-fifth day following injury. An indication that automatic micturition is about to become established is the ease with which expression of the urine is accomplished. Pricking the sole of an analgesic and anesthetic foot at the instant slight pressure is applied over the fundus of the bladder may also aid in initiating the urinary flow. Although the bladder cannot be completely emptied by this method, infection is extremely rare. If this complication does arise, one may resort to catheter drainage and irrigation. After the development of automatic micturition, criti-

cal attention directed toward the urinary apparatus is no longer required.

There should not be any question as to the desirability of establishing automatic emptying of the bladder in the management of urinary retention resulting from traumatic lesions of the spinal cord or cauda equina. The intelligent cooperation of the staff is a prerequisite if successful results are to be expected. Ideally, patients with such a dysfunction should never have a urethral catheter passed; however, there are some in whom retention of urine cannot be treated by any other method. An obese abdomen precludes the possibility of manual expression of the urine by suprapubic pressure. Elderly patients who may have thin vesicular musculature, possible diverticuli of the bladder, or urethral obstruction from hypertrophy of the prostate should never be treated for urinary retention of traumatic origin by this method. In this series the bladder was ruptured in 3 patients of advanced years before the lesson was learned. Lastly, urethral stricture of inflammatory origin may be encountered, requiring instrumental dilatation before suprapubic pressure for the evacuation of urine can be successfully instituted.

Rectum and Anal Sphincters

An injury of the spinal cord or cauda equina that is followed by urinary bladder dysfunction will almost invariably disturb the normal action of the rectum and the anal sphincters. If a severe degree of shock exists immediately after the injury, relaxation of the sphincters and total incontinence of feces may be present. More often, the external anal sphincter is flaccid, while the internal sphincter is in a state of complete contraction. It is unusual for a patulous anal canal to remain so for more than a few days, the eventual outcome of a "cord rectum" being a spastic internal anal sphincter with retention of feces. The easiest and most effective means of fecal elimination under these conditions is the irrigation of the rectum and distal sigmoid using a large rectal tube. It is advisable to carry out a digital examination of the rectum once a week to insure against fecal impaction. It is unwise to administer cathartics, since repeated involuntary fecal evacuations will ensue, necessitating repeated handling of the patient in order to change the bed linen.

Skin, Joints, and Skeletal Musculature

As stated in the introductory remarks, all patients with clinical evidence even sug-

gesting spinal cord or cauda equina injury should be placed on an air or sponge-rubber mattress upon admission to the hospital. There is no substitute for this precautionary measure. Three or four hours on an average hospital mattress is sufficient time to produce ischemic changes in the skin and subcutaneous tissue overlying body prominences which frequently result in necrosis and ulceration. Even an equal distribution of weight to all cutaneous surfaces in contact with the bed, as obtains when a patient is on a sponge-rubber mattress, is not enough precaution to prevent decubitus sores. If complete functional interruption of the spinal cord or cauda equina is present, gentle massage of the skin, over bony prominences in particular, is to be carried out every four to six hours for the first week following injury. This may be accomplished without moving the patient by compressing the mattress with one hand and massaging with the other. The sacral region and the heels are the most vulnerable points and, therefore, require major attention. A bed cradle should be placed over the legs and feet lest the bed clothes produce necrosis of the tips of the great toes.

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for the surgeon in charge to have not only a knowledge of abdominal surgery but also ability in diagnosis, judgment, and operative skill. The diagnosis of these many conditions is of such great importance that it is difficult to entirely separate it from the treatment.

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complicated with those of other parts of the body, and it often becomes a difficult question for the surgeon to decide which should be attended to first. Penetrating wounds of the abdomen, both those due to gunshot and others that are the result of stabs, are found more commonly among the population of our large cities. In late years these conditions have also increased in number. Of course, in wartime they are by far the most common forms of abdominal injuries, though subcutaneous wounds of the viscera occasionally occur due to the impact of large, spent fragments of shells or the caving in of a house, dugout, or trench.

The management of a case of suspected intra-abdominal injury of the nonpenetrating type is most important, for operation should not be undertaken until a thorough physical examination and laboratory investigation have been completed. There is nothing to be gained by rushing the patient to the operating room, as was so often done in the past, and much harm may result.

It is now known that some types of abdominal injuries are better treated without operative intervention and, consequently, if a correct diagnosis can be obtained, the injured person may be saved from further shock. Moreover, the general condition of a shocked individual may often be improved and, by choosing the proper time for operation, the chances for recovery are increased. Consequently, the diagnosis of the intra-abdominal condition is the first and most important factor leading up to treatment.

Most deaths from internal hemorrhage occur rapidly following the injury, for the bleeding in these cases is usually from large vessels and, therefore, little can be accomplished by operation in order to save life. The hemorrhage in many cases of laceration of the spleen, liver, or kidneys soon ceases if large vessels are not torn, for a clot forms on the wound surfaces. This clot, however, may be displaced some time later and hemorrhage may again occur. Therefore, in many cases, operative intervention should not be undertaken until the clot has formed and the patient shows signs of improvement from the effects of the primary hemorrhage and shock. A patient whose systolic blood pressure is below 80 must never be operated upon, and it is far better to wait, if possible, until it has been raised to at least 90 before operation is undertaken.

If some hollow viscus has been ruptured, operative intervention is absolutely necessary

in order to prevent extension of infection from contamination of the peritoneal cavity. This, again, should not be attempted until the condition of the patient has improved sufficiently from shock.

Thoracic injuries may often produce abdominal signs that are similar to those of an intra-abdominal injury and, not infrequently, exploratory laparotomies are performed because of this. However, through proper physical examination and x-ray investigation, the injury within the chest can usually be demonstrated and further risk from an abdominal operation averted.

Retroperitoneal hemorrhage causes physical signs that are similar to those of intra-abdominal injuries. The hemorrhage in these cases may be the result of bleeding from a fractured pelvis, a ruptured kidney, or from small vessels in the lumbar gutters. The patient is necessarily shocked, the abdominal muscles are rigid and boardlike, and intestinal distention follows within twenty-four hours. The surgeon, therefore, is at first unable to decide as to the lesion or part that is involved. Undue haste to operate may result in a catastrophe; while, on the other hand, if a careful study is made during the time the patient is being resuscitated, a more exact diagnosis often may be reached. It is a common experience, I find, especially in injuries in children, to have the patient admitted to the hospital in deep shock with a rigid, boardlike, tender abdomen and at operation to discover no intraperitoneal injury but a retroperitoneal hemorrhage. The child would have done far better if the true condition could have been ascertained in the beginning, for it would have thus averted a needless operation. There are always, however, a large number of cases of abdominal injuries in which a preoperative diagnosis cannot be made and, in these, the surgeon must not hesitate to explore at a time when, in his judgment, the patient's condition has improved sufficiently to withstand operation.

An individual suffering from abdominal injury when admitted to the hospital is immediately placed between warm blankets so that the body heat may not be lost. If in a state of shock, the foot of the bed is raised. Nothing is allowed by mouth. Judicial use of parenteral fluids is of help in bringing the patient out of his primary shock. These, however, must not be given too rapidly, especially if venoclysis is used, since it may cause a rise in blood pressure and thereby increase internal hemorrhage. Normal saline solution may be used, but blood plasma or whole blood

are far better if obtainable. All of this, however, must be done with caution if hemorrhage has not been checked. Five hundred cubic centimeters of blood given to a shocked individual who is suffering from loss of blood can do no harm, but more may raise the blood pressure to a height that may increase the bleeding.

A complete physical examination, including rectal examination, is then made without, however, subjecting the patient to too much exposure or undue disturbance. Opiates, which are most useful in all cases of trauma, should then be given freely. Pulse rate and blood pressure readings taken every half hour are most useful as a means of informing the surgeon of his patient's condition. Frequent hematocrit readings to ascertain the concentration of the blood cells and the checking of the specific gravity of the blood by the use of the falling drop method are accurate means through which to differentiate between shock and internal hemorrhage. Though blood counts and hemaglobin readings have been superseded by these newer and more exact methods, these facts should nevertheless be obtained and recorded for future use. The blood of the patient must, of course, be typed and cross-matched to be prepared for transfusion. If there is the least suspicion of a rupture of the stomach or intestines, a roentgenogram should be obtained of the abdomen, with the patient in a sitting or standing position, in order to detect air within the peritoneal cavity. The absence of this roentgenographic finding, however, does not entirely rule out injury to some part of the intestinal tract.

Retroperitoneal hemorrhage is comparatively common following trauma of the abdomen in children. The diagnosis can be reached only by the method of exclusion and, consequently, in many cases surgical exploration becomes necessary when the child has recovered sufficiently from shock.

Wounds of the kidney may occur from rather trivial violence. There is usually severe shock, with marked tenderness in the costovertebral angle, spasm of the lumbar muscles, and hematuria, though gross blood in the urine is not always present. Most of these injuries heal without operative intervention. Therefore, expectant treatment should be instituted. Exploration, however, must be done if the hemorrhage continues, as exemplified by an increase of fullness in the flank accompanied by a steadily rising pulse rate; if there is persistence of the hematuria;

or if severe secondary bleeding occurs from the renal pelvis. Specimens of urine, therefore, should be saved in order that the surgeon may study his case by comparing their blood contents. If the kidney is badly damaged, an extravasation of urine into the retroperitoneal space is not uncommon. Here, operation must be done. The retroperitoneal space must be drained, and the kidney, or at least part of it, must be removed, depending upon the findings. Nephrectomy should be done through a lumbar incision and never through the transperitoneal route. But, before this is undertaken, the surgeon must be satisfied that the other kidney is functioning. Once the kidney is exposed there is little chance of saving it, and a nephrectomy is done, following which the wound is closed about a drain. A perinephritic abscess may develop following injury to a kidney. This, of course, should be drained in the usual manner.

Fractures of the pelvic bones cause large retroperitoneal hematomas in the pelvis which cause symptoms of an intraperitoneal injury. This injury may be accompanied by rupture of the posterior urethra or perhaps the bladder. Laceration of the bladder due to a fracture of the pelvis is usually through that part not covered with peritoneum, and an extravasation of urine supervenes into the space of Retzius. Whenever there is suspicion of injury to this viscus, a catheter must be passed in order to investigate. If the catheter's passage is obstructed in the region of the triangular ligament, a laceration of the membranous portion of the urethra should be strongly suspected. If the catheter enters the bladder and blood-free urine is obtained, injury to it can be ruled out. If, however, a scanty amount of blood-stained urine is obtained and, following injection of a sterile solution, only part of it returns, a wound of the bladder is almost certain. If there are no indications of injury to the bladder or the urethra, operative intervention is unnecessary. When, on the other hand, there is evidence of laceration of the urinary vesicle or of injury to the membranous urethra, a superpubic cystostomy should be performed as soon as the patient recovers sufficiently from shock, and appropriate measures should be taken to repair the damage.

The liver is composed of soft, parenchymatous tissue enclosed in a tense, fibrous capsule. Though partly protected from direct violence by the ribs, it is subject to compression that may cause a true rupture, the result of bursting force. The wounds, in conse-

quence, are often large and ragged; sometimes there is a single fissure, but more often there is an extensive stellate tear. There are marked symptoms of hemorrhage and shock. The abdominal signs at first may be localized but soon become general, and often death rapidly follows. There is a difference of opinion among surgeons as to the advisability of operating in all these cases of rupture of the liver. Those who advocate expectant treatment argue that when the tear in the liver is extensive it is impossible to obtain hemostasis by either suture or packing and, if a clot has formed, the manipulation at operation only tends to renew the hemorrhage. The other school of thought, on the other hand, advocates operative intervention following the resuscitation of the patient.

If a diagnosis of laceration of the liver can be definitely established, we think it is well to treat the patient expectantly. A diagnosis, however, is so often in doubt that exploration is frequently necessary. In this case the wound in the liver, if small, is sutured with heavy catgut on large, round, curved, blunt-pointed needles. Several rows of mattress stitches are used so that no dead space is left. The ends of the sutures should be tied, not too tightly, over small pieces of muscle obtained from the abdominal wall to prevent the stitches from cutting through. Large, stellate, fissure wounds can only be packed, and this is unsatisfactory as the gauze easily slips away.

Rupture of the spleen is treated satisfactorily by splenectomy. Though there have been case reports in which small lacerations have been sutured, this is not to be recommended. If the hilum of the organ is torn, death supervenes rapidly from hemorrhage but, if the splenic pulp is merely lacerated, the bleeding often ceases for a time after a clot has formed. All patients with ruptured spleens, however, must be operated upon, for it is well known that secondary hemorrhage from the splenic pulp is a common occurrence. Operative intervention should not be undertaken until the patient recovers sufficiently from shock.

Lacerations of the stomach and intestines are far more serious injuries than the others that have been described. These injuries generally occur when the organs are distended either after a full meal or when there is intestinal distention. They are usually the result of a severe, sharp blow upon the abdomen. Laceration of the large intestine is much more serious than that of the stomach or small intestine because of the greater infectious quality of its contents. The shock

to the patient is severe, and peritonitis soon follows from contamination. Early diagnosis and operative intervention are, therefore, of the greatest importance. The diagnosis may at times be made by means of the x-ray.

Surgical exploration is indicated, with but few exceptions, in all cases of penetrating wounds of the abdomen. These exceptions are small stab wounds of the lower part of the chest or lumbar region of the back. All penetrating wounds due to bullets or other missiles must be explored as soon as recovery from the initial shock has occurred. If the patient is first seen later than thirty-six hours following injury and if his condition is improving, a watchful waiting, expectant treatment may be established. Bullet wounds are far more serious than stab wounds, for the amount of intra-abdominal damage is greater and the extent of the injury cannot be nearly so easily estimated before operation. The apparent course of the bullet should, therefore, be investigated in each individual case, so that the extent of the injury may be established before operation. The direction taken by the bullet can usually be learned by finding the wounds of entrance and exit, for the course is generally a straight line projected between these two points. If no wound of exit exists, the bullet is occasionally found somewhere beneath the skin; otherwise, the position of its lodgment must be sought by means of the x-ray. When there is more than one bullet, the problem of ascertaining the course of each may be difficult. It should be remembered that the intra-abdominal contents may be injured by bullets that enter the body in regions far from the abdominal parietes, and it is only by establishing the direction of the missile that its progress can be correctly established.

Close range shotgun wounds are almost always fatal, since a large portion of the abdominal wall may be torn away by the explosion. At longer ranges there are multiple small penetrations from the shot. In the latter type of injury the treatment should be expectant, since it is impossible to trace and remove each small pellet.

The preliminary treatment of a patient with a penetrating wound of the abdomen is similar to that of one suffering from a nonpenetrating injury. It must always be borne in mind, however, when dealing with penetrating wounds, that damage to the bowel is probable and that progress of infection from contamination, among other factors, depends upon the time interval between injury and repair of the intestine. Full prophylactic doses of tetanus

antitoxin must be used in all such cases if caused by firearms.

If large vessels have been torn, the patient's condition fails rapidly and death may occur within the space of a few hours. The types of injury in which most help can be given are those in which the intestines have been perforated by a bullet; in these there is some hemorrhage, but the most important indication is the early closure of the perforations and, thereby, the prevention of widespread contamination of the peritoneal cavity.

General anesthesia, preceded by suitable premedication, should be used when operating upon any type of intra-abdominal injury. Spinal anesthesia is contraindicated because of the shock or hemorrhage. If a stab of the abdominal wall is only to be explored, it is permissible to use local anesthesia; but, if later it be discovered that the peritoneal cavity has been involved, a general anesthetic must be substituted.

When exploring a stab wound of the abdominal wall, the tract may be followed down by opening up each succeeding layer separately. This is necessary, since infections in these wounds are not at all uncommon and, since the muscles of the abdominal wall shift in position, the tract is not at all continuous. Having been opened widely, the wound is then lightly packed with vaseline gauze. If, however, it is discovered that the peritoneal cavity has been entered, a separate incision for its exploration can be used.

I repeat again that abdominal exploration must be done in all cases of penetrating wounds of the abdomen due to missiles. This is best accomplished by means of a long, paramedian incision through which the entire abdominal cavity can be explored. If all the abdominal contents are not then accessible, the incision may be enlarged by making suitable transverse or oblique extensions. The more experienced a surgeon, the longer are his incisions, for he well knows that through ready access to the abdominal contents he can the more easily accomplish his aims. After having obtained free access to all the organs within the peritoneal cavity, a systematic search is then begun in order to discover the extent of the damage. This may be far from where it was at first suspected because of the capacity of much of the abdominal viscera to shift in position. It should also be remembered that wherever a bullet has perforated a loop of intestine, there is necessarily a wound of exit and, frequently, more than one loop may be involved. A not at all uncommon experience

is to overlook an intestinal perforation, after carefully repairing others, and have the patient die a few days later from peritonitis. I believe that there is nowhere in surgery in which the old adage "more mistakes are made by omission than by commission" is more applicable than when operating upon gunshot wounds of the abdomen. The liver, gall-bladder, and spleen are first inspected. The stomach is then examined and, if a perforation is found on its anterior surface, there is surely one through the posterior wall. The duodenum is traced along its full extent and the pancreas is examined. Then the small intestine is investigated by beginning at the duodenojejunal junction and carefully following it down to the cecum. Each loop of intestine is gently delivered and after inspection returned again before the succeeding one is brought out through the wound. This method is far less shocking to the patient than when the intestines are entirely eviscerated at once. The large intestine is then followed through from the ileocecal junction to the rectosigmoid and, finally, the pelvic organs are examined.

Gunshot wounds of the liver are shattering in character and should be treated by packing about the surface opening. The track of the bullet must never be investigated or packed, since further unnecessary damage is produced. Cholecystectomy is performed when the gall-bladder is damaged.

Wounds of the spleen are treated by splenectomy. Those of the pancreas should be packed and drained to allow exit of the pancreatic secretions. The body of the pancreas can be exposed by entering the lesser peritoneal sac either through the gastrocolic omentum or the transverse mesocolon.

Bullet wounds of the stomach may be difficult to expose if high in the cardia. Wounds on the anterior surface are easily closed, using a double row of fine chromic catgut stitches. Those on the posterior surface, if near the greater curvature, can be exposed by entering the lesser peritoneal sac through any one of the avascular spaces in the gastrocolic omentum. If, however, the perforation of the posterior wall is high, it can be repaired only through a transgastric approach.

Bullet wounds of the mesentery seldom call for resection of the bowel, except when lacerated close to the intestinal border. Small hematomas of the mesentery may be disregarded; larger ones should be opened and the bleeding vessels secured. Isolated perforations of the intestines are closed as simply and quickly as possible with lines of fine

chronic gut sutures, taken through all the layers, and reinforced with peritoneal stitches. Resection of the intestines may be necessary when there are multiple, adjacent perforations, when the gut is severely lacerated, or when the circulation to a section has been impaired. Wherever there is a choice, however, this more serious operative procedure should not be undertaken, for it carries a far higher mortality rate than when perforations are simply closed. If the decision is to resect, the simplest and most expedient type of operation should be chosen. The form of anastomosis that has given the individual surgeon his best results is the one to be used, but the technic must be neither complicated nor time-consuming.

Wounds of the large intestine carry a far higher rate of mortality than do those of the small. If a perforation of this part of the intestinal tract is found, the surgeon should remember that there may also be a perforation through the retroperitoneal segment of the wall of the gut. To expose this the lateral leaf of the peritoneum should be incised. Whenever difficulty arises in closing perforations of the colon, the bowel contents may be side-tracked by performing a double-barreled colostomy proximal to the point of injury by simply pulling a loop of gut up through a small intramuscular abdominal incision and passing a glass rod through the mesentery beneath it. Sutures to fix the bowel to the abdominal wall are unnecessary and should not be used, since they may cause leakage of intestinal contents. The loop may be opened after twenty-four hours. If the damage to the bowel is great and speed is called for, the lacerated loop of large intestine may be "exteriorized." The small intestine, however, must never be so treated. Intestinal anastomosis by means of mechanical devices, such as the Murphy button, has long been abandoned as undesirable.

After having closed the perforation, attention is then directed to the contamination of the peritoneum. All intestinal contents, detached tissue, and blood clot must be systematically removed by means of a sucker or gauze sponges. Irrigating the peritoneal cavity is no longer advisable, since it spreads contamination more widely. The recent introduction of the sulfonamide drugs has placed a valuable means of defense against peritonitis in the hands of the surgeon. These drugs are now used extensively in combating peritoneal contamination, as well as peritonitis. The local use of sulfanilamide placed in

the peritoneal cavity has shown gratifying results in warding off peritonitis following contamination. It is used by placing 10 Gm. of the sterilized crystals in the abdominal cavity before the wound is finally closed. Drainage of the peritoneal cavity is thought by many to be unnecessary and undesirable if the toilet of the peritoneum has been carried out satisfactorily. However, leakage may occur, and it seems permissible to place a small cigarette drain so that it may establish a fistula if this complication should arise. The drain, however, must not be in contact with a line of suture. Drainage of the abdominal wall should always be done when intestinal perforation has occurred.

Extensive search for bullets is time-consuming and unnecessary and, unless the missile lies free within the abdominal cavity, its removal should not ordinarily be undertaken.

The late treatment in all types of cases of intra-abdominal injury is as important as the preoperative treatment or the technic used during operation. Early distention is often present, though infectious peritonitis has not developed. The patient should be constantly watched for the appearance of peritonitis or intraperitoneal abscess. Though paralytic ileus is the most common form of intestinal obstruction following intra-abdominal injuries, mechanical lesions are not unknown.

Complications of the respiratory system frequently occur; atelectasis appears during the first thirty-six hours and pneumonia later.

The intestinal tract of the postoperative patient, as well as that of the preoperative, must be placed entirely at rest. Nothing should be given by mouth. The patient should be kept absolutely quiet by means of frequent doses of morphine. Distention is combated by gastroduodenal drainage by means of suction. The Miller-Abbot tube is of advantage in many cases if it can be passed into the duodenum early enough. Cathartics or laxatives must not be used. Enemas or irrigation of the colon are only useful when the intestinal walls have regained their tone.

The most important problem during this period is the balancing of the body fluids and the maintenance of the protein level. Immediately after operation, shock and hemorrhage must be combated. This is best accomplished by means of blood transfusion. The laboratory is a most necessary guide in deciding whether to give normal saline, glucose solution, whole blood, or only plasma in building up fluid reserve of the body. Treatment with vitamins must also not be neglected.

THE TREATMENT OF HYPERTRICHOSIS BY ELECTROCOAGULATION*

CHARLES LERNER, M.D., New York City

THE problem of eradicating unwanted hair has taxed the ingenuity of man throughout the ages. Prior to the invention of electrical devices, there was no means by which hair could be permanently removed. In 1875 Michel,¹ an ophthalmologist, applied galvanic current in the treatment of entropion. Soon afterward, dermatologists began using the same method for hypertrichosis.

With the development of diathermy as a therapeutic agent, dermatologists had reason to believe that it might successfully be employed in removing hair. However, the limitations of the original diathermy machines appeared to thwart their hopes. Eitner² (1910) maintained the feasibility of this method and pointed out that the early failures were due to inadequate rheostat control.

The way in which diathermy was expected to produce epilation was by coagulating the tissue adjacent to the hair with a high frequency current of high voltage, just as the albuminous part of an egg is coagulated by cooking. This action differs from that of electrolysis, in which a direct current of low voltage is used to inactivate the tissue by breaking it down with the release of hydrogen bubbles and the formation of sodium hydroxide.

In the application of diathermy, if two large electrodes of equal size are placed on opposing surfaces of the body, the passage of current from one to the other is resisted by the tissues, thus producing an elevation of temperature in the tissues themselves. This is known as medical diathermy. If, however, one of the electrodes is made small (less than 1/2 inch in diameter), the resistance becomes concentrated in the tissue nearest the small pole and enough heat is generated at that point to coagulate the tissue.

Reasoning from this principle of shifting the area of highest resistance by reducing the relative size of one electrode, it might be expected that reduction of the small pole to a needle point and inserting it into a hair follicle until the papilla is reached would destroy

the hair-producing part of the follicle. It seemed that this might be accomplished without injury to the epidermis by a proper adjustment of the electrocoagulating apparatus.

This hope was first realized in the nineteen twenties by several experimenters in Europe. Bordier,³ of Lyons, is generally regarded as the first to demonstrate the success of the method. Certainly, he was a pioneer in the field and the most enthusiastic advocate of the new technic. Bordier maintained that the destruction of the hair root was due to coagulation of the vessels that supply it with nutriment. He advised the use of a tempered steel needle of suitable elasticity with a point 0.2 mm. in diameter and insulated over its entire length except at the point.

Following Bordier's success, his technic was tried by a number of other physicians, many of whom developed certain modifications of their own. Lanzi⁴ (1924) was able to confirm Bordier's conclusions that electrocoagulation was simpler, more practical, and less disfiguring than electrolysis for this purpose.

Katz⁵ in the same year reported his own experience but maintained that insulation of the needle was unnecessary, since the heat was concentrated at the point in any case, and by proper placing of the needle the papilla alone would be affected. He emphasized the small amount of pain produced by diathermy as compared with electrolysis. He also pointed out that scarring was the result of faulty technic, and when it did occur it was probably less than that caused by electrolysis. This conclusion was confirmed by Halla.⁶ These authors also emphasized the rapidity of the diathermy method by which about 50 hairs could be removed in ten or fifteen minutes as compared with an hour by electrolysis.

Rostenberg⁷ (1925) was the first in this country to recommend electrocoagulation for hypertrichosis. He used a current of about 80 milliamperes and recommended ten to twenty seconds for the removal of each hair. He attributed the high effectiveness of this method to the fact that the coagulation spreads over an area large enough to include destruction of the papilla even if the needle does not touch it. He also mentioned the reduction of pain, absence of scarring, and low percentage of recurrences.

In 1927 van Putte⁸ in Holland reported

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¹In the interest of space conservation, for the purposes of publication, the illustrations have been deleted.

success with needles that he made for himself of watchmaker's wire. The steel was slightly heated to render it flexible and was then polished down to a point 0.1 mm. in diameter, increasing to 0.2 mm. at a distance of 5 mm. from the point. No insulation was used on the needle shaft. Van Putte applied 40 to 50 milliamperes of current for one second.

Mezei⁹ (1929) advocated the use of multiple insulated needles placed in a holder and each point separately inserted into each follicle in a given area. The current is then turned on and maintained until coagulation is completed. In order to determine the amount of current required, a test is made on one hair and the result is multiplied by the number of needles to be used. This multiple method is said to be no more painful than when one hair is removed at a time.

Reports by von Büben¹⁰ (1926), Kren¹¹ (1927), and Weidenfeld¹² (1927) further substantiated the observations of earlier workers as to the satisfactory results obtained by electrocoagulation. Von Büben noted the greater rapidity and reduced pain. Kren advocated the insulated Kromayer epilation-needle with the distal 2 mm. of surface unprotected. Weidenfeld used 3 milliamperes of current for three seconds and had minimal recurrence.

By 1928 electrocoagulation had become the method of choice in Europe, as indicated by Kende¹³ in review of the subject. Nor has the enthusiasm for it lessened since that time, as shown by more recent reports of Piérola¹⁴ (1933), Cumberbatch¹⁵ (1937), Cateula¹⁶ (1939), and Ducourtieux¹⁷ (1939).

Recognizing the fact that individual patients react differently to the treatment, Piérola recommended a preliminary removal of no more than 12 hairs to serve as a guide to the optimum amount of time and current to use for each patient. Cumberbatch advocated the use of a fine platinum-iridium needle. He also emphasized the need for care and dexterity and a thorough understanding of the technic in order to secure the best cosmetic results.

Apparatus

The current used is a highly damped oscillatory discharge, oscillating at a frequency above 1,000,000 cycles per second; it is obtained from a small portable, spark-gap type of high-frequency apparatus. The current density controlling mechanism is of a potentiometer type. An auxiliary switch provides a high and low current for other uses

so that the unit can be used for electrodesiccation and electrocoagulation of various lesions if desired. No milliammeter is required, since the calibrated scale on the current density control is a correct guide for desired dosage.

Technic

The technic concerning asepsis, positions of the patient and operator, and other details is essentially that of electrolysis. The needle is inserted with the usual precautions, and the current is turned on by means of a foot switch that should require only slight pressure. Utilizing a current of approximately from 60 to 75 milliamperes, the foot switch should be pressed for one second, three or four times, and the hair removed with forceps without resistance.

Comment

Most observers recommend the use of feeble current and prefer several applications of one or two seconds; this permits of greater exactitude and is better adapted for the various types of hair. My own experience with electrocoagulation so far has borne out the favorable reports of others. In order to overcome the fear of producing scars and to determine the optimum amount of current and time of application, I experimented on the volar surface of my left forearm. The hairs were clipped to a length of approximately $\frac{1}{2}$ inch from the skin surface so that the direction into the follicle could be more accurately followed. The intensities of current experimented with varied from approximately 125 to 60 milliamperes, beginning at the upper part of the forearm and decreasing as I proceeded toward the wrist, removing a few hairs with each decrease of current, carefully avoiding the removal of those that were close neighbors. I found that a current intensity of approximately 60 to 75 milliamperes was almost painless when applied intermittently for a total time of about three seconds.

Eighty-two clinic patients and 21 in private practice were subsequently treated by this method. Hairs were removed from the cheeks, chin, the upper lip, the breasts, and the upper and lower extremities. Only 6 patients of the entire number treated complained of some pain, but none stated that it was unbearable. Some developed immediate perifollicular erythematous reactions that were more intense than those of others and on investigation those patients were found to have some general vasomotor disturbance,

particularly hypotension. The impression was gained that all reactions on the face were generally less intense than those on the covered parts of the body. All evidence of reactions had disappeared within three weeks.

Although results with the insulated needle were not appreciably better than those with the uninsulated, the insulated needle should, in my opinion, be preferred because its use tends to give the operator a sense of security against scar production. It is important, of course, to be acquainted with the characteristics of the apparatus used and to test it on a patient or the operator himself to determine the optimum current and time. Needless to say one must be able to enter a follicle with the needle and contact the papilla. A skillful operator can thus remove approximately 200 hairs in an hour. It is inadvisable, however, to treat contiguous hairs or to make immediate repeated attempts in the same follicle after an initial failure.

In my opinion, the electrocoagulation method, though safe in the hands of an experienced dermatologist, could prove ineffective, destructive, and disfiguring if used by an amateur. Since it is really electro-surgery, its use should legally be limited to licensed physicians.

Conclusions

1. One hundred and three patients, 21 of which were private cases, were treated by electrocoagulation for the removal of superfluous hair.

2. The outstanding advantage of the method over that of electrolysis is speed; approximately 200 hairs can be removed by a skillful operator in one hour.

3. Pain is minimal and well tolerated when a current of approximately 60 to 75 milliamperes is used intermittently for a total of three or four seconds.

4. No scarring resulted from the treatment in any of the patients or on my own forearm on which a current of greater intensity was deliberately used.

5. No regrowth of hair has occurred after a period of six months.

6. From these observations I believe electrocoagulation to be the method of choice for the removal of undesirable hair and, in my opinion, will ultimately supersede electrolysis.

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Discussion

Dr. Paul Gross, *New York City*—Dr. Lerner is to be congratulated on his fine paper for several reasons, of which I want to mention only one. He is known as an excellent dermatologist who has done a great deal of research work, particularly in radiotherapy and electrosurgery. His interest has been concerned with major problems of dermatology, in particular those of malignancies of the skin. The fact that he has devoted enough time to the improvement of the methods of removal of superfluous hair, proves that he has an understanding of the cosmetic, social, and psychologic difficulties and agonies to which women of all ages, afflicted with hypertrichosis, are subjected. I dare say this is a distinction for a modern dermatologist.

If I attempt to add a few remarks to his presentation, it is due to the fact that I have realized for many years that we dermatologists have neglected this field and actually have surrendered it to the layman with most unfortunate results, both to the patient and to the dermatologist. It was out of these considerations that I took up endothermy epilation as soon as Bordier published his technic in 1924.

My equipment consisted of a spark-gap diathermy machine, an x-ray timer permitting exposures up to one-twentieth of a second, and a milliammeter of the thermocouple type, with a scale from 0 to 100 milliamperes. After an experimental period, I was able to dispense with the timer and found the use of the bipolar surgical current of the spark-gap diathermy machine, with exposures of approximately one second, most satisfactory.

I can summarize my results in a great number of private cases as cosmetically excellent and permanent. There is no doubt about the superiority over electrolysis. I should like to give a few practical points that have guided me in the use of diathermy epilation.

1. It would be misleading and cause undesirable results if we assume that the concentration of the heat produced by diathermy forms

a cone with the tip at the needle point and widening downward. Actually, there is a concentration of heat around the needle point which decreases downward and upward, and the proper current will be the one that gives sufficient coagulation in an area around the point of the needle and no coagulation further up, particularly at the surface of the cutis. As can be seen, this postulate can hardly be fulfilled for the short-rooted lanugo hair. Nevertheless, it is possible to destroy even the papilla of the lanugo hair without visible scarring, showing the margin of safety of this technic.

2. The efficiency of the high-frequency current does not allow any compromise in accuracy and skill, particularly if the best cosmetic result is to be obtained. Recurrences are bound to be as high as in electrolysis because of the anatomic peculiarities of the hair follicle under the skin surface beyond the control of the operator's eye. This disadvantage is amply counteracted by the speed of the method. I have removed as many as 300 hairs in fifty minutes, and yet I consider not the speed itself but the time factor that permits the operator to perform the most important step of the operation—namely, the entering of the needle carefully, skillfully, and leisurely—as the greatest advantage. Electrolysis, requiring twenty to thirty seconds exposure for one hair, is sometimes an unbearable strain for the operator as well as for the patient. Diathermy epilation can really be a relaxation for the physician, after a busy office hour with talkative patients, and even after a treatment of fifteen minutes, one can see and feel that something has been accomplished.

3. Dr. Lerner, as well as other writers, mentions a certain milliamperage as a guide in selecting the strength of the current for diathermy epilation, but the current is so low that it will barely register on the ordinary low meter range of one to one thousand, of even a thermocouple instrument. It can only be measured accurately, as mentioned before, with a meter reading from 0 to 100 or 200 milliamperes. It is not absolutely necessary to be guided by the milliamperage meter. It is more important that the current

destroy the hair papilla in such a way that the hair can be easily removed without visible coagulation at the skin surface. This can be accomplished with a needle which is not insulated, but an insulated needle is preferable. For many years I have been using such an insulated needle but so far I have not found one with an insulation that would last the lifetime of the needle. Of course I insist on keeping my needles in an antiseptic solution, and I have found that the Bard Parker solution is one which will not affect insulation.

4. In recent years the short-wave diathermy has become a favorite, and superiority has also been claimed for it in diathermy epilation. I have tried several machines but so far have not reached a conclusion. I believe we should make a concerted effort to ascertain whether the energy output of a short-wave machine is as well suited for epilation as that of the spark-gap machine. My impression is that the current is not so flexible as that produced by spark gap.

In closing, I wish to say that I agree with all of Dr. Lerner's conservative presentation. That electrocoagulation is a method to be used by a physician only should be particularly stressed. This is admitted even by A. F. Niemoeller in his book, *Superfluous Hair and Its Removal*, advocating electrolysis as the safest and best method. Niemoeller quotes the editor of *Hygeia*, saying that "with diathermy epilation, there is more scarring, more discomfort and a larger percentage of recurring hair than there is with electrolysis, and that about the same number of hairs may be removed per hour by either method, if properly performed." May I say to this that in my experience exactly the opposite is true. In seventeen years I have never had the slightest complaint about scarring, and only a small percentage of patients discontinued treatment because of being discouraged by pain or lack of result. Many patients would only express one regret—namely, that I had not asked them to have themselves photographed before and after treatment so that other unfortunate victims of hypertrichosis could be encouraged about the success of this method.

What is the age at which a person may expect, according to averages, to live just as long again? At age 35 the expectation of life is itself 35 years, so that a white person at age 35 may expect, according to averages, to live to age 70, which happens to be the oft-quoted biblical "three score years and ten." No doubt it is this figure that Dante had in mind in the opening lines of his *Divine Comedy*, where he refers to himself as being halfway on the road of life. Writing this, supposedly in 1300, he was then 35 years old.

This halfway station, when a man's expectation of life is equal to his age, is somewhat variable according to changes in mortality, but much less so than the average length of life. According to mortality in the United States, the former figure has varied only from about 33 to the present 35—that is, by two years—in the last four decades, during which the average length of life has increased by almost 15 years.—*Statistical Bulletin, Metropolitan Life Insurance Company*

OBSTETRIC PROBLEMS ARISING FROM EXCESSIVE SIZE OF THE INFANT

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THE birth of a fetus of tremendous size has been occasionally recorded, yet it is after all a rare occurrence and is cause for comment when it does take place. De Lee² records that in 64,000 cases on his service only 15 were born weighing more than 12 pounds or 5,443 Gm. and that all but 1 of them gave rise to serious dystocia. Hobbs and Scrivner³ in 1933 record 1 stillborn fetus weighing 7,700 Gm. (16.94 pounds) and giving rise to serious dystocia. Still larger authentic cases are on record but they are extremely rare.

Comparatively little attention has been paid to the problem of labor in connection with the fetus of unusually large size, and yet there are problems of an extremely serious nature to both mother and child which may arise because of the unusual development of the fetus. The difficulties that may arise are of such a nature as to play a real part in causing fetal and neonatal mortality, as well as maternal morbidity and mortality, and would, therefore, seem to warrant further study of the problems involved.

There are a number of well-recognized factors that may cause the excessive development of the fetus, as well as certain others concerning which we know little or nothing. Among the former, for example, may be included such factors as multiparity, prolonged pregnancy resulting in the postmature over-developed fetus, and diabetes. In general, also, though of course not always, the woman who is herself of unusual size tends to give birth to large children. It is also a matter of note that the woman who leads a sedentary life during the latter part of her pregnancy and who subsists on a diet too rich in carbohydrates will probably give birth to a child of unusual size. Various types of monstrosities should also be included. Of fetal factors that might influence the rate of growth of the child, for example, such as unusual activity of the pituitary body, we know practically nothing.

Provided the pelvis is of normal dimensions, the mere size of the fetus is unlikely to cause any serious dystocia unless it weighs 4,000 Gm. or more. So for the purposes of this study I shall present the outcome of a series of

infants in which the birth weight attained or exceeded this figure. This series represents observations on 406 women who gave birth to 495 infants weighing 4,000 Gm. or over. This latter figure represents 8.3 per cent of the deliveries occurring in the corresponding period of time, so it is obvious that the birth of babies of large size is a rather frequent occurrence. As would be expected, there were no multiple pregnancies in the series. From the above figures it is also apparent that the woman who has once given birth to a child of excessive size shows some tendency to repeat the process in subsequent pregnancies. Thus, 336 of our series of women each gave birth to a single child of excessive size, while 70 of them gave birth to 2 or more such infants, and 2 of them actually gave birth to 5 each.

Grouped according to the weight at the time of birth, this series is shown in Table 1.

TABLE 1

Birth Weight, Gm.	Number of Infants
4,000 to 4,499	399
4,500 to 4,999	82
5,000 to 5,499	11
5,500 to 6,000	3
Total	495

The particular points to be discussed include the effects of such large infants on the course of labor, the menace to the mother, the fetal mortality and morbidity and, finally, the procedures to be followed when confronted with this situation.

The effect on the course of labor in many cases may be slight; thus, in 76 instances the duration of labor was four hours or less, and 1 woman in the series delivered a living infant weighing 5,380 Gm. spontaneously after a three-hour labor. On the other hand, 45 women had prolonged labors of twenty-four hours or more, in each instance the prolongation being due to uterine inertia, probably caused by the unusual distention of the uterus.

Operative interference was resorted to in 85 instances or 17.7 per cent of all deliveries—not a particularly high incidence—while labor was artificially induced on 28 occasions, this being done to prevent further excessive development of the fetus (Table 2, following page).

When dystocia occurs in connection with an unusually large child, it is of interest to note,

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TABLE 2.—OPERATIVE PROCEDURES EMPLOYED

Low forceps	40
Mid forceps	18
Breech extraction	12
Breech extraction and craniotomy	1
Podalic version	8
Podalic version and craniotomy	2
Craniotomy	1
Cesarean section (low cervical and classic)	5

provided the pelvis is normal, that the difficulty is seldom the result of an excessive size of the head but rather is to be regarded as shoulder dystocia, resulting from the great increase in the general bulk of the child's body with a corresponding increase in the circumference of the shoulder girdle. The course of events is often represented by a possibly rather easy birth of the head, and then difficulty is encountered on account of the large shoulders and body, this unfortunately occurring at a time when it is too late to resort to measures other than those that may well result in injury or death to the child. The factors involved appear to be the result of impaction of the shoulders in the pelvis and their failure to rotate or to be rotated artificially. For similar reasons, difficulty may also be encountered after the application of forceps, even outlet forceps. Several times we have had the experience of applying forceps when the head was at the outlet and yet, on making traction, advance failed to occur, the difficulty here being due not to the size of the head but to the resistance offered by the shoulders at the superior strait.

In addition to the dystocia factor, other difficulties may also arise on the maternal side, thus in 32 of our patients a postpartum hemorrhage of 600 cc. or more occurred, an incidence of 6.4 per cent. In each case the excessive blood loss was the result of uterine atony which, in turn, was probably the result of the extensive distention to which the uterus had been subjected. Another maternal accident was the occurrence of six third-degree tears, four in primiparas and two in multiparas. These occurred in spite of episiotomies performed before the extension of the head and, again, were definitely caused by the additional tension incident to the delivery of the large shoulders. Fortunately, all healed satisfactorily after primary repair. The incidence of puerperal infection was fortunately no greater than average, and there were no maternal deaths in the series.

Turning now to the results insofar as the fetus is concerned, we find that there were 24 who were born dead or who died within the first two weeks of life, representing a fetal mor-

tality of 4.8 per cent—not unduly high, perhaps, but yet definitely above the general clinic level of 3.5 per cent. Some of these fetal deaths doubtless could not have been prevented but, on the other hand, it must be admitted that a number of them could have been avoided had other procedures been followed at the time of delivery. The fetal death rate when considered in connection with the size of the offspring may be seen in Table 3.

TABLE 3

Birth Weight, Gm.	Number of Infants	Deaths	Mortality, Percentage
4,000 to 4,499	399	13	3.2
4,500 to 4,999	82	4	4.8
5,000 to 5,499	11	4	36.0
5,500 to 6,000	2	3	100.0
Total	495	24	

From the above figures, it is obvious that the fetal death rate increases rapidly for every 500 Gm. of weight above 4,500 Gm., becoming unduly high in those infants weighing 5,000 Gm. or more. In analyzing the possible causes for these fetal deaths, it is found that dystocia was the responsible factor in 16, or two-thirds, of the cases, and almost invariably the dystocia was due to the unusual size of the shoulder girdle and the generally increased bulk of the child's body. In the other 8 cases fetal death was due to factors in which the unusual size of the baby apparently played no part.

In addition to the fetal deaths, a number of birth injuries to children born alive also occurred, there being 6 examples of Erb's palsy, 1 of which was unfortunately permanent, and 3 fractured clavicles. Again these injuries were the result of difficulty in extracting the shoulders after the birth of the head.

In searching for possible causes for the occurrence of unusually large children in this series, a number of conditions that may have played a contributory part in connection with some of them are noted, while in many it is impossible to offer any explanation for the occurrence. Multiparity played an obvious part, only 88 of our series being primiparous women, while 114 pregnancies occurred in what the French call the "grande multipara"—that is, the woman who has undergone five or more pregnancies. Unusual size of the mother, particularly obesity, may have played its part in a good many instances, for in 142 women their nonpregnant weight was 72.5 Kg. (160 pounds) or more, 122 of these being multiparas. No figures are available on the size of the fathers, which might well play a part also.

Diabetes was not an important factor, since the series includes only 3 such women; while postmaturity, always a difficult matter to determine accurately, may perhaps have been a possible factor in 6 instances.

Advancing age of the mother has been suggested as a possible contributory factor, and this is to some extent borne out in our series. Thus, 206 pregnancies occurred in women over 30 years of age, 85 of them being over 35. On the other hand, 289 pregnancies occurred in women under 30.

The possible contributory factors of excessive size are tabulated in Table 4.

TABLE 4.—POSSIBLE CONTRIBUTORY FACTORS TO EXCESSIVE SIZE OF FETUS

Multiparity	407
(Grande multipara)	114
Excessive size of mother (72.5 Kg., 160 pounds, or over)	142
Diabetes	3
Postmaturity	6

Coming to suggestions as to the lines of procedure to follow in dealing with this problem, it would first seem that there are certain prophylactic measures that might well be given consideration. Under normal conditions of intra-uterine life, the fetus acquires almost its entire supply of body fat during the last two months of pregnancy. This is well brought out by the chemical analyses of Michel, as recorded by Bar.¹ For example, the body of a fetus weighing 1,024 Gm. at the end of seven months' pregnancy will contain 18.66 Gm. of fat, while the body of a fetus of average size (3,335 Gm.) at term will contain 392 Gm. of fat. It is also a common observation that in the case of the fetus of unusual size a considerable proportion of its increased weight is due to a marked increase in its body fat which, in turn, results in a considerable increase in the general bulk of the body without any necessarily striking change in the size of the head measurements. Another fairly well-established fact would make it appear that the chief source of the fetal body fat is to be found in

acental
known

points, it would appear rational to at least make an attempt to control the size of the developing fetus by restricting the supply of fat-forming foods during the last few weeks of pregnancy. This may be done by the so-called Prochownick diet in which the carbohydrate intake particularly is materially reduced during this period—that is, the last eight to ten weeks of pregnancy. One should

not expect too much from this procedure, but I have had some success with it, making use of it particularly in patients who give a history of previous difficult labors when the difficulty was apparently due to the unusual size of the baby. Adequate exercise and avoidance of a too sedentary life should also be advised. Induction of labor would also have a most decided place in the management of this condition when prenatal examination in the last week reveals a child of unusual size and, in particular, when the patient gives a history of previous difficult labors because of large size children. Furthermore, prolongation of pregnancy beyond the expected date of confinement should not be permitted. Cesarean section will also have a real place in the handling of these difficult situations. In our series a number of babies would undoubtedly have been saved had cesarean section been done, particularly in those 3 patients whose weight exceeded 5,500 Gm.

I find it particularly difficult to lay down specific rules as to when cesarean section should be performed. To adopt it as the mode of procedure for delivery of all unusually large babies would obviously involve the performance of a great many unnecessary operations, and yet, generally speaking, when it is chosen as the mode of procedure, it will have to be more or less elective. So often the difficulty in delivery arises after birth of the head when cesarean section cannot be thought of. A few generally applicable rules may be suggested, but they admittedly will not fill all the situations that may arise. If the pelvis be contracted to any marked degree, the decision is easy and cesarean section would be the procedure of choice. In our series only 12 women showed any degree of pelvic contraction, and the contraction in each instance was slight, so this was not a problem. In women who give a history of having lost 1 or more children as the result of large-child dystocia and who again present themselves with a large child at the end of pregnancy, elective cesarean section should be given most serious consideration no matter what the type of pelvis may be. Again, in women seen at the end of pregnancy with a child that appears to be of really great size, approaching 5,500 Gm. or over, the best results for both will in most instances be obtained by abdominal delivery. Often in these situations one may be easily misled by the fact that the pelvic measurements are normal and that therefore the pelvis will permit the passage of a baby of almost any size. Such, of course, is not the case and,

actually, it would require a pelvis of unusually large proportions—a justomajor pelvis—to accommodate such a child. Before resorting to cesarean section in such a case, it would be most desirable, if possible, to have a radiograph taken to assure oneself that one was not dealing with some form of monstrosity. In time, it is not too much to hope that prenatal radiographic measurements may be so perfected as to facilitate more accurate estimations as to the actual size of the fetus.

Abnormal presentations of large children also present a situation that may well warrant resort to cesarean section. Difficulty at delivery due to shoulder dystocia after the head is born too often resolves itself into some forcible means of extraction with no regard to the welfare of mother or child. De Lee² offers several suggestions that may at times prove of value in the presence of this emergency. He suggests first hooking a finger in the posterior axilla to draw the shoulder down or, failing this, to attempt a similar maneuver on the anterior shoulder. If unsuccessful, pass the whole hand into the birth canal, free the posterior arm, and draw it down and outside; or again failing in this effort, make a similar attempt to bring out the anterior arm, these procedures being carried out even at the risk of a fractured clavicle or humerus. If the

baby is already dead, cleidotomy or even evisceration may be necessary.

Summary and Conclusions

A series of 406 women who gave birth to 495 infants weighing 4,000 Gm. or over is presented. The gross fetal mortality was 4.8 per cent, but it was found to become progressively higher as the weight of the child increased and, unfortunately, was 100 per cent in 3 instances where the birth weight exceeded 5,500 Gm. The difficulty was almost invariably due to shoulder dystocia. In addition to the fetal deaths, a number of birth injuries such as Erb's palsy and fractured clavicles also occurred. There were no maternal deaths. Methods of procedure are discussed, including dietary measures, induction of labor, and cesarean section. The largest infants in the series were 2 who weighed 6,000 Gm.; both were born dead. The largest living child in the series weighed 5,410 Gm. and was delivered by cesarean section. The largest living child born spontaneously weighed 5,350 Gm.

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CARE OF BABIES IN AIR RAIDS

In view of the general possibility of air raids on American cities, particularly in the coastal zones, the American Committee on Maternal Welfare regards it as important that American mothers understand and prepare well in advance for the task of protecting their babies. The committee is composed of the leading medical, public health, nursing, and hospital organizations of the country, and can thus speak with authority.

Aside from the immediate need of shelter from bomb explosions, the most important fact to keep in mind, the English have learned, is that the mother's mental attitude is baby's best guarantee against air raids.

"However frightened you may feel," the committee quotes from instructions issued by the British National Baby Welfare Council, "keep outwardly calm and unflurried, so that the child's confidence in your own protectiveness may not be shaken. Never speak of the raid in the child's hearing if you can avoid it. Mental impressions are formed very much earlier than most people realize. Many problem cases of the present day owe their condition to parents having talked continually in the presence of children about past and future air raids, about their own terror, and

the effect of this on the child. The following words are as true today as when they were written thousands of years ago: 'In quietness and confidence shall be your strength.'"

When the raid signal sounds, the first move should be in the direction of the nearest shelter. If there is no shelter, take the baby to the safest room in the house, or to a closet under the stairs or under a table or bed, so that he may be protected from flying debris, which presents the most frequent danger. Take with him garments enough to keep him warm according to the season, a basket or pillow on which he can lie, a first aid outfit in case of need; a toy to amuse him, his bottle of milk and a bottle of water, together with extra diapers and related equipment. The baby's ears should be blocked with cotton wool to minimize the effects of concussion, leaving plenty outside so that it may easily be withdrawn afterward.

If the raid should come while the baby is away from either house or shelter—for an airing in the park, for instance—find the nearest wall or ditch, however low, place the baby on the ground beside it, with pillows from the baby carriage or a heavy coat under and over him, and lie down beside him.

THE TREATMENT OF ETHMOIDITIS

JOHN R. HONISS, M.D., Rochester, New York

THE occurrence of uncomplicated acute catarrhal ethmoiditis parallels the occurrence of the ordinary common cold. One might well judge it to be one and the same thing. The ethmoid sinuses, because of their position, are the most vulnerable of the sinus groups, and it is probably impossible to have a real acute rhinitis without some involvement of the ethmoids.

If the infection is not severe and the patient's resistance good, the process lasts a few days. The nasal congestion subsides, the temperature becomes normal, the discharge thickens, and one may consider the attack ended. Local treatment, I believe, should be discouraged. Certainly, as emphasized by Peters,¹ the promiscuous use of the various nose drops flooding the market does more harm than good. It is safer to depend on sane general measures.

When, however, the acute symptoms do not subside in a reasonable length of time and there is evidence of increased pressure in the nose, together with lack of drainage and the presence of localized pain and headache with some temperature, then one is dealing with what may be called ethmoid retention.

General measures, with rest in bed, liquid and soft diet, and the application of mild silver preparations to the ethmoid area as a rule give satisfactory results. Aspirin, codeine, and hot towels to the face will often allay pain and pressure symptoms.

When these fail to relieve, one has to look for the complications of ethmoid involvement. Kelly² says: "The first one to consider is antritis." Localizing symptoms will put one on guard. There may be some frontal pain or tenderness, some tenderness over the anterior wall of the antrum, or perhaps pressure symptoms about the eye. There is apt to be some shadow on transillumination or x-ray.

I do not advocate washing a "hot" maxillary sinus, but when the usual conservative measures have not given the desired relief in a reasonable time and when we have waited for the local membrane congestion to quiet down, then I have no hesitation in making an exploratory puncture.

Several other writers on this subject have mentioned the frequent occurrence of antritis

with ethmoiditis and it is well to remember that possibility. There have been articles also on the danger of antrum irrigation. These dangers have been emphasized to such an extent that I am afraid a considerable number of practitioners think of antrum puncture as a last resort. If it is done carefully, with adequate anesthesia and with due respect for the parts involved, I fail to see the reason for apprehension. Many times the antrum wash helps to unlock the anterior ethmoid area; it also relieves frontal congestion. I find the antrum trocar and cannula one of the most valuable parts of my equipment.

Another method which has proved helpful through the years for a stubborn ethmoid is the argyrol tampon as recommended years ago by Dowling. Properly placed and repeated a few times, it promotes drainage. Owing to tightness in the upper part of the nose and ethmoid region, the placement of the pack may have to be preceded by the application of a small amount of 1 per cent neosynephrin or a 0.25 per cent ephedrine in physiologic salt solution or, in sensitive cases, a cocaine solution. The pack is left in place from fifteen minutes to half an hour. The virtue of the pack is not in its antiseptic qualities, but in its ability to draw the liquid elements from the tissues, thereby reducing swelling and promoting drainage. Gable³ states: "The colloidal silver preparations help by osmosis." That seems to be a logical explanation.

Still another approach for relieving pressure and unlocking the ethmoid is infraction of the middle turbinate.

The method employed by Shambaugh⁴ for draining the ethmoid is satisfactory in cases of low-grade chronic infection. "X-rays are taken to rule out frontal, maxillary, and sphenoid involvement. The nasal passages and nasopharynx are then cleansed with a sterile normal saline solution. The patient's head is then hyperextended in the Proetz position and the nasal passages filled with a 0.25 per cent ephedrine in physiologic salt solution. Alternate light suction and release of suction are applied with a hand bulb for from four to six times on each nostril, and if frank mucopus is obtained or blown out into a towel when the patient sits up, the diagnosis of ethmoid supuration is made. Several treatments of this type will usually give relief."

¹Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, May 1, 1941.

In hyperplastic or polypoid ethmoiditis, where most of the cell membranes have undergone degeneration and the middle turbinate is but a shell of its former self, the remedy is self-evident.

Many patients with this condition suffer for years without much complaint. Their sense of smell and taste may be very slight, but they come in because the nares are filled with polypi and nasal breathing is practically impossible.

In those well along in years and in those who for one reason or another will not permit a thorough exenteration, I have temporized in the treatment and have removed the polypoid masses with snare and forceps without going into the cells. Although one does not take any particular pride in this sort of work, it does give relief for varying periods of time and can be justified in certain cases.

When, however, the patient presents orbital symptoms, disturbances of vision, headaches, etc., then more complete work is indicated. This necessitates hospitalization. If the ethmoid area is crowded, owing to a thickened or deflected septum, a thorough resection should be done. After this has healed, the ethmoid work may be done through a wider approach and under better vision. The polypoid tissue is followed into the various cells and removed. Speed is not attempted. When one group of cells is removed, the area is sponged dry and the local anesthetic reapplied. This is done repeatedly until all cells within reach have been opened and the infected membrane removed. It is not an easy job. It takes time and patience, but I think thoroughness will be rewarded. Mithoefer⁵ notes that "the intranasal ethmoid operation done carefully is not done often enough." Complete exenteration in the true sense of the word is probably not often accomplished, owing to the varied anatomy of the ethmoid capsule. The turbinate is saved whenever possible. Sometimes only the posterior portion or the anterior tip needs to be sacrificed.

With the ethmoid area well cocaineized, the sphenoid sinus may be entered and drained if there is evidence of infection there. Infection in the ethmoid is not likely to clear up if there is a neighboring sphenoiditis.

After-care is important in that adhesions between the septum and turbinates and between the turbinates and the outer capsule wall must not be allowed to form, and the cases should be followed for weeks or months. If there is an accompanying chronic maxillary sinusitis, a radical Caldwell-Luc is done some time after the ethmoid operation.

It becomes apparent then that relief of ethmoid infection is not always a simple problem. It is usually associated with infection in one or more of the neighboring sinuses and it will not be cured until appropriate treatment is given these.

Twenty years ago very radical work in the ethmoid area was advocated. Some time later the pendulum swung the other way and an exceedingly conservative attitude prevailed. Does it not seem proper to assume that between these two extremes, perhaps, one may take a reasonable attitude? When symptoms warrant, thoroughgoing surgery, as in any other field, should be the procedure.

If a hyperplastic or suppurative ethmoiditis is associated with a severe asthma and if, as is sometimes the case, there is also an infection of the maxillary sinuses and sphenoids, one is faced with no small problem.

You have all seen the result of partial measures. As a rule they are disappointing to both patient and operator. The background of the asthmatic patient is apt to be marked by nervous instabilities and often definite allergic symptoms. Any simple operative procedure may temporarily give relief for a few days, only to be followed by a recurrence of symptoms.

Given this type of case, a thorough study should be made of the sinuses with every means we have. If, after this examination, it is found that besides a chronic ethmoiditis there is also a badly deflected septum causing impaction of the middle turbinates, a definite maxillary sinus infection, and also an infection of the sphenoids, we are faced with the problem of advising our patient. This means a resection of the septum at one time, the exenteration of the ethmoids and drainage of the sphenoids at another, and a radical Caldwell-Luc on the maxillary sinuses at still another time. I believe, as Crowe⁶ advises, that unless the patient is willing to go through this procedure, it is better to let the nose entirely alone.

Even with this radical procedure one cannot promise complete relief in all cases, but one can often predict fewer and less severe attacks as well as an appreciable amount of comfort.

In the March 1, 1941, issue of the *JOURNAL*, Grove⁷ reported the results of sinus surgery in 200 cases of asthma. He stressed the good record in those cases where complete surgery is done and he also emphasized that the results with the radical operation in the maxillary sinuses are twice as successful as those in which a window resection is done.

In summing up, I think it is fair to say that in the majority of uncomplicated ethmoid infections conservative methods will give very good results, but when the hyperplastic or suppurative ethmoid is encountered, with an accompanying sphenoiditis and antritis, then as complete surgery as possible should be done.

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Discussion

Dr. Arthur Palmer, *New York City*—The treatment of simple acute ethmoiditis usually presents no great problem. Complications of this condition may be severe and require careful judgment in their management. Orbital cellulitis, seen more often in children than in adults, will frequently resolve without suppuration under nonsurgical measures. Chemotherapy is a definite aid in this connection. If suppuration occurs, external incision and drainage are indicated. As a rule, intranasal surgery is to be shunned in the presence of acute infections.

The care and cure of the patient suffering from chronic ethmoiditis will often tax the resources of the most skillful otolaryngologist. Medical treatment should place emphasis upon the value of prophylaxis, climate, diet—including vitamin balance and other general measures, as the use of autogenous vaccines, exercise, and hygiene—as well as upon the local treatment of the condition.

Briefly, the local treatment should be directed toward the maintenance and improvement of the physiologic functions of the nose and sinuses. The following are useful: nasal tampons saturated with isotonic ephedrine solutions, gentle suction combined with irrigation, infrared light therapy and at times long- or short-wave diathermy, the use of silver preparations locally, and desensitization in the presence of allergy. In all types of chronic ethmoiditis, except the hyperplastic with the presence of polyps, nonsurgical treatment should be given some weeks and perhaps months of trial.

When some general disease appears to be related to chronic sinus infection, conservative measures have been entirely satisfactory in a high percentage of cases. There is, however, a tendency to blame too many general conditions upon chronic sinusitis. If operation is decided upon, the surgeon must possess precise anatomic knowledge and manipulative skill and he must

proceed with greater caution than in any other type of nasal surgery. The importance of removing all diseased membrane in the ethmoid labyrinth has often been stressed by certain otolaryngologists. It is only rarely possible to remove all diseased membrane with safety. It is questionable, indeed, whether removal of all diseased tissue has ever been effected with the patient surviving the operation. While the intranasal approach to the ethmoid often proves satisfactory, the external approach is doubtless safer and should be employed especially when adjacent sinuses, as the antrums and frontals, are involved.

Ethmoiditis and Asthma.—In a study of 100 consecutive cases of bronchial asthma at the New York Hospital, the sinuses were found to be involved in 89 per cent, the antrums in 82 per cent, the ethmoids in 69 per cent, the sphenoids in 66 per cent, the frontals in 46 per cent of the cases. More than one group of sinuses was involved in 73 per cent.

With full recognition of these findings, we have nevertheless made it an inflexible rule never to perform an ethmoidectomy or any other type of sinus operation simply because the patient has bronchial asthma. We believe that the indications for operation are the same regardless of the presence of a bronchial asthmatic condition. Too often have radical surgical measures left the patient with an incurable atrophic rhinitis and scar tissue formation, with subsequent suffering from incapacitating head pains and many times little or no permanent relief of the asthma. In the presence of sinus disease, most patients suffering from bronchial asthma will be improved temporarily at least by treatment, whether it be medical or surgical. Few patients will be cured. Much the same policy in respect to surgery may well be applied in the presence of an allergic membrane in the nose and sinuses. If mechanical obstructions due to the presence of polyps, spurs, or deviated septums exist, they should be corrected surgically. We have proved to our own satisfaction that mechanical obstruction in the nose often has an unfavorable effect in that it aggravates the allergic or vasomotor disturbance of the mucous membrane.

Dr. Frederick J. O'Connor, *Syracuse, New York*—I have heard with interest and pleasure this paper of Dr. John Honiss. One perceives in it much that has not been written. Acute ethmoiditis occurs about as frequently as the common cold. When patients do not recover early there is some reason, e.g.:

1. Unusual virulence of the offending organism responsible (a) for the epidemic prevailing at the time, or (b) for the individual case, or a diminished resistance of the patient, who may be suffering from some general debility or convalescing from some other condition.

2. Some or all of the so-called normal anomalies of the ethmoid: (a) infundibular cells; (b) bulla frontalis; (c) concha bullosa; (d) a posterior ethmoidal cell, extending posteriorly and lying above the sphenoid sinuses, or a posterior ethmoidal cell extending into the maxillary sinus, creating the so-called double maxillary sinus; (e) extension of the foveola well into the roof of the orbit.

A rhinologist, to be safe, should fortify himself by being thoroughly familiar with some or all of the following works, Zuckerkandl, Onodi, Hajek, Warren B. Davis, and with the specimens that Mosher has collected in his laboratory.

3. What one likes to think of as physiologic anomalies: (a) regular, honest hay fever, which occurs regularly season after season and is no more than that; (b) hay fever and infection—there is no reason why a hay-fever sufferer might not also have an ethmoidal sinusitis; (c) allergy to the organism causing the ethmoidal sinusitis. Again the rhinologic problem must be studied on an endocrine basis.

Treatment

1. Preventive: (a) increasing body resistance—vitamins, cold vaccines, sun lamps; (b) isolation of cases to prevent spread; (c) chemotherapy—sulfadiazine.

2. Symptomatic: (a) treating symptoms as they arise (headache, general malaise, nasal obstruction)—shrinking sprays. Dr. Wishart

of Toronto, Canada, is a strong advocate of systematic, thorough shrinking.

3. Heat: (a) short wave—inductotherm; (b) hot or cold compresses; (c) steam.

4. Operation: I feel that so long as one's hand is not forced by an apparent impending extension of the infection into the surrounding areas, one would do well to be slow to operate. Lyman Richards advocates caution, although he says that many times it takes courage to wait. One should never let his operation be more extensive than the condition demands. Exenteration of the ethmoid is done much less frequently today than it was twenty-five years ago. There are three surgical approaches to the ethmoid—all three have their advocates and in the skilled hand all three give good results: (a) the intranasal ethmoidectomy; (b) the external ethmoidectomy; (c) the transantro ethmoidectomy.

Concerning nasal operations: Mr. Norman Patterson said: "Operations on the nose should when possible be avoided." Extensive operations are frequently performed when there is no possible justification for them. It is often the case that the patient who would have made a good recovery from the disease never recovers from the operation. Dr. Mosher has called exenteration of the ethmoid, "the easiest operation that could cause a patient's death."

In conclusion, please let me leave with you Dr. Shurley's three "guardian angels": (1) common sense; (2) surgical judgment; (3) study of the individual.

SAVE THE PIECES!

In this day of flying missiles and bodies hurtling through space, injuries to the external ear are quite common. When an ear is nearly severed, it is often surprising how promptly it will heal when kept clean and accurately and promptly sutured in place. The ears have it, when it comes to circulation! But if all or part of the structure is detached, chances of success are negligible.

In such an instance, however, as with finger tips or ends of noses, save the piece! Skin it clean and tuck the cartilage into a subcutaneous pocket upon the abdominal wall. Here it will remain clean and viable, to be invaluable in subsequent reconstructive surgery. After the accidental wound has healed and the defect is established, the cached cartilage may be inserted

about the meatus through a postauricular incision and pressure dressings applied. After several weeks or months the cartilage and overlying skin may be raised from the side of the head, as a flap pedicled ventrally. Denuded surfaces may be covered with a free split skin graft.

Restoration of maldeveloped or mutilated ears is notoriously unsatisfactory. Utilization of maternal ear cartilage grafts in the former has proved to be singularly helpful, cartilage and cornea being the two human tissues which can be successfully transplanted from one individual to another. Prompt preservation of the patient's own ear cartilage, in cases of accidental severance, will save future time and trouble. And the patient will be grateful for a superior end result.—Rocky Mountain M.J.

A doctor stopped his car on a country road and asked a little boy how far it was to Russellville.

The little boy answered: "It's about 35,999 miles the way you're going, but if you turn around it ain't but three."

Diagnosis

CLINICOPATHOLOGICAL CONFERENCE

March 26, 1942

FOURTH MEDICAL DIVISION OF BELLEVUE HOSPITAL

History

This was the fourth Bellevue admission of a 73-year-old white man of Greek extraction, who entered the hospital on January 9, 1942, with chief complaints of cough and anorexia of three months' duration. For two months this cough had been productive of moderate amounts of mucopurulent sputum. For two weeks slight blood-streaking was present. Twelve years prior to this admission, the patient's weight was 254 pounds; one year before, it was 180 pounds, three months before, 178 pounds, and at the time of this admission, 153 pounds. Some hoarseness had been present for three months. Increasing weakness accompanied these symptoms. The patient's statement that he had had difficulty in swallowing was not borne out by observation in the ward. The only other complaint was constipation of two months' duration. The character of the stools was not noted. No nausea, vomiting, eructations, or diarrhea was noted. The genitourinary system was negative except for nocturia (two to six times nightly).

The past history revealed that the patient had had a gallbladder operation thirty years before, with postoperative adhesions. Five years before, he had been admitted to the Neurological Service for weakness of the left hand. Fibrillary twitches of the left hypothenar muscles and of both gastrocnemii were reported. X-rays showed early hypertrophic osteoarthritic changes. The clinical impression was "syringomyelia, midcervical region." Upon discharge from the hospital, paresis of this extremity improved, and no further complaints about this condition were brought forth. Other admissions to Bellevue Hospital had been for (1) acute otitis media, (2) phimosis.

On admission in the present instance, the temperature was 99.6 F., pulse 64, respirations 20, and blood pressure 170/90. Physical examination revealed an elderly white male appearing chronically ill, hoarse, almost aphonic, but neither dyspneic, orthopneic, nor cyanotic. The skin showed no petechiae,

purpura, or jaundice. There was a hard 2.5-cm. fixed nodule above the right clavicle, and a movable hard nodule in the right axilla. A few small left posterior cervical nodes were present. The head and scalp were negative. The pupils were equal, regular, and reacted to light and accommodation. There was no nystagmus or palsies. The sclerae were white, the conjunctivae pale. Examination of the fundi showed sclerotic vessels, but no exudates, hemorrhages, nor arteriovenous nicking. The ears, nose, and throat were negative. Direct laryngoscopy did not reveal any pathologic changes except for thickened, reddened vocal cords. The trachea was in the midline; there were no tracheal tug and no dilated neck veins, and the thyroid was not palpable. The chest revealed increased anteroposterior diameter with scoliosis to the left. The lungs were resonant throughout. Over both lower axillae, and posteriorly at the very base, a few medium moist and coarse rales were heard. The heart was not enlarged; A_2 was greater than P_2 . There were no thrills or murmurs. Regular sinus rhythm was present. A right rectus incisional scar was present in the abdominal wall. A hernia was present at the site of the incision. The right lobe of the liver could be felt 5 inches below the costal margin. The spleen was definitely palpable. There was no clubbing, cyanosis, or edema of the extremities. The pedal pulses were of good quality. Rectal examination revealed a normal-sized prostate with a small hard nodule high up on the right lobe. The reflexes were physiologic.

Laboratory Findings

The urinalysis on admission showed a specific gravity of 1.026, acid reaction; the remainder of the findings were not significant. Fasting blood sugar on January 21 was 211, on February 2, 181, and on February 18, 164. Daily urines (collected), taken two hours after meals, were reported as showing 0-2 plus glucose. The blood nonprotein nitrogen was 36, and the Wassermann was negative. The electrocardiogram showed no findings of diag-

nostic significance. The red blood count was 5,300,000, with 90 per cent hemoglobin, the white blood count 8,700, with 78 per cent polymorphonuclears. The cells were normal.

X-ray Reports

An esophagram showed no organic lesion of the esophagus. Extrinsic pressure of the mid-third of the esophagus was observed in the left oblique and was due to aneurysmal dilatation of the aorta at the base of the aortic arch. The heart was not enlarged. There was slight widening of the arch of the aorta. There were interstitial changes at the roots of both lungs and thickening of the pleura on the right (January 13).

Gastrointestinal Series

Examination revealed no evidence of any intrinsic lesion of the stomach or duodenal bulb. In the third portion of the duodenum there was a rounded, translucent area associated with an abnormal spreading of the mucosal folds. "My opinion [Dr. Buckstein] is that we are dealing with a tumor of the duodenum with partial intussusception" (February 2). A repeat x-ray on February 5 revealed identically the same findings as previously seen.

After initial work-up on the Surgical Service, before the gastrointestinal series was done, the working diagnosis of bronchogenic carcinoma was made. The impression of the chest consultant was that the pulmonary symptoms were due to chronic bronchitis and laryngitis. Essential hypertension and diabetes were secondary diagnoses.

Course

The patient's hoarseness and cough showed improvement. The blood-streaking disappeared. The diabetes was well controlled on a C 130 low-fat diet without insulin. The patient was transferred to the Medical Service with a radiologic report of possible duodenal neoplasm, and transferred back to the Surgical Service for consideration for exploratory laparotomy. There, however, he went rapidly downhill, and, upon 1,200 cc. of fluid before operation, went into pulmonary edema. Despite digitalization, circulatory failure persisted, and the patient expired on the forty-seventh hospital day.

Clinical Impressions

DR. ZACHARY SAGAL (February 2): Globular dilatation, of the size of a pigeon's egg, in the third portion of the duodenum. While

the roentgenologic appearance suggests an intussusception, I cannot conceive of this taking place in a segment of duct which is retroperitoneal. Carcinoma is a better bet. Patient has a hard node above the right clavicle which may be metastatic.

DR. ALLAN R. ARONSON (House Note): Because of hepatomegaly and splenomegaly, as well as relative frequency of different types of duodenal tumors, I believe lymphosarcomatosis is the most likely diagnosis.

DR. MAX TRUBEK (February 2): As suggested by Dr. Aronson, because of splenomegaly, we may be dealing with a lymphomatous type of tumor amenable to radiation therapy.

DR. DORAN (surgical consultant): Probable metastatic malignancy from the duodenum.

Discussion

DR. ZACHARY SAGAL: The patient was admitted to the surgical wards because of dysphagia, with the possibility of carcinoma of the esophagus as the cause of this underlying symptom. However, his behavior in the ward did not bear out this complaint. The cough with the blood-streaked sputum improved and gradually disappeared, as well as the subjective and objective hoarseness. Incidental findings were diabetes mellitus, which was easily controlled on diet alone, and moderate hypertension. The neurologic diagnosis of syringomyelia was made five years prior to admission. There was no evidence of the disease on the patient's last admission. Important among the patient's symptoms were increasing weight loss, nausea, anorexia, and asthenia. Biopsy, of course, of the hard supraclavicular and axillary nodes would have been of immense value. Hepatomegaly and splenomegaly along with the above-mentioned nodes were the significant findings. The small nodule on an otherwise normal prostate may have been the seat of neoplastic changes, but that is not likely. X-ray revealed a large filling defect (globular) in the third portion of the duodenum. I cannot conceive of intussusception taking place in the third portion of the duodenum, which is firmly bound down by the peritoneum. In the ward, I mentioned the faint possibility of a large biliary calculus ulcerating into the duodenum. This, however, cannot be correlated with the other findings as cholecystectomy was done thirty years ago. The gastrointestinal series, except for the duodenum, was negative. A barium enema was not done. I believe that both right- and left-

sided large bowel malignancies with metastases can be ruled out. Right-sided malignancy is usually accompanied by anemia, which was not present in this case; left-sided malignancy by obstructive signs and symptoms, which also played no part here. Cirrhosis of the liver with splenomegaly must be considered in the differential diagnosis, but this cannot explain the whole picture. Primary carcinoma of the liver is a rare lesion that we should think of, but the rigid criteria for this diagnosis exclude it here. The supraclavicular metastatic nodes caused bronchogenic carcinoma to be considered a possibility, but it will be noted again that the pulmonary signs cleared, and the roentgenologic evidence was against it.

In retrospect, the presence of nodes, the splenomegaly, the widening of the base of the heart, make one think that malignancy originating in the lymphatic system is the most likely diagnosis. Thus my first diagnosis is a lymphoma.

Leukemia is partially ruled out by the normal blood count. If an aleukemic leukemia had been present, the patient should have had a severe anemia. It is also possible, in view of his previous neurologic symptoms, that the primary source of this lesion was a neoplasm of the central nervous system.

The mode of exitus is difficult to explain. The heart was not enlarged; only moderate hypertension was present and the electrocardiogram showed no significant changes. It is hard to conceive that 1,200 cc. of fluid could have precipitated pulmonary edema. A gradual onset is more likely, and lymphomatous infiltration into the myocardium is again a possibility to be thought of.

DR. EMANUEL APPELBAUM: I believe that some form of lymphosarcoma is the most likely diagnosis. Primary carcinoma of the duodenum should have been considered, but its rarity in the third portion would tend to rule this out. The enlarged spleen is of importance and suggests that the lymphosarcoma is of the giant follicular type.

DR. ARNOLD KOFFLER: The x-ray report of partial intussusception makes me believe that the third part of the duodenum was abnormally free or that the tumor originated from a more proximal portion of the duodenum. Very little attention has been paid to the fairly marked compression of the esophagus. Aneurysmal dilatation as well as mediastinal glands may well have produced this picture.

DR. MENNASCHE KALKSTEIN: In view of the multiple lymph node enlargements, the

splenomegaly, and the mediastinal pathology with esophageal compression, which is most likely due to enlarged mediastinal lymph nodes, a lymphogenous process is the most likely diagnosis. However, the possibility of a carcinoma arising in a bronchus with diffuse lymphatic and hematogenous spread has not been eliminated. Bronchoscopy was not performed. A small tumor can be readily overlooked even in the presence of widespread metastases. Although there is no direct evidence in this case, the thyroid as well as the bronchi should be suspected as the possible source of neoplastic dissemination to the retroperitoneal lymph nodes. If this is the case, splenomegaly may be the result of an old malarial infestation in a Southern European.

DR. LOUIS F. BISHOP: There was no definite evidence of cardiac disease. Other causes of marked moisture in the lungs could have been present. Hypostasis and mediastinal compression may have been factors in producing this picture.

Pathology

DR. ROGER W. STEINHARDT (Gross Pathology): On section of the chest, some free fluid was encountered in both pleural cavities, but the striking finding was the mediastinal lymphadenopathy, which extended from the hilar region of the lungs to well above the arch of the aorta. These nodes were firm, homogeneous, matted, and surrounded, but did not obstruct the trachea, esophagus, and aorta. They hugged the major branches of the aorta and could be traced to the supraclavicular nodes seen clinically. The heart was normal in size, but the myocardium of the left ventricle was hypertrophied, and there was some dilatation of the ascending aorta, but no aneurysm. The lungs showed small, scattered yellowish nodules in the pleura, and except for slight congestion and edema were normal. Exploration of the bronchial tree revealed no evidence of tumor. The liver was enlarged, weighing 2,300 Gm., and on section showed a few small nodular infiltrations. The spleen was greatly enlarged, weighing 800 Gm. On section it presented a mottled appearance, caused by yellowish raised areas against a deep purple background. The pancreas on section showed several small areas of infiltration. The prostate was slightly enlarged, but no evidences of tumor could be found. On opening the duodenum, a plum-sized tumor extending from a long narrow pedicle 1 cm. above the papilla of Vater could be seen. On its surface four ulcerations, each about $\frac{1}{2}$ to

1 cm. in diameter, were noted. On section, the tumor was similar in appearance and consistency to the lymph nodes. The pedicle of the tumor was not involved. The remainder of the gastrointestinal tract was negative.

Discussion

DR. MAX-WILHELM JOHANNSEN: In retrospect, it is always easy for us as pathologists to make the correct clinical diagnosis. The outstanding findings were an easily palpable spleen, an enlarged liver, and hard palpable lymph nodes in the supraclavicular region. The symptomatology presented was not conclusive, particularly as most of the patient's complaints improved while in the ward. Hepatomegaly and splenomegaly are frequently the expression of cardiac failure. This patient had no evidence of diminution of cardiac reserve. Portal cirrhosis or occlusive lesion of the hepatic vein or portal vein thrombosis exhibits usually, in addition to the splenomegaly, some ascites. There was no mention of this in this particular case. Other infrequent entities or, still better, syndromes, such as Banti's or hemochromatosis, etc., are just mentioned because I believe the diagnosis should only be made after the more frequent and therefore more likely diagnoses have been excluded. Hodgkin's disease, or other forms of lymphoblastomas, and leukemia seem to me to cover better than anything else the findings encountered in this patient. The definite differentiation between Hodg-

kin's disease and, for instance, lymphosarcoma can only be made on histologic examination. The differentiation of an aleukemic leukemia was mentioned previously by Dr. Sagal. Tumor was present in the enlarged lymph nodes, in the duodenal polyp, spleen, liver, and pancreas. The histology of the tumor was uniform in the sections. Tumor areas of the involved organs were overrun and replaced by small round cells usually staining deep blue. There was no recognizable pattern. The bone marrow failed to reveal any findings indicative of leukemia. Carcinoma of the duodenum is unlikely, and, per se, could not explain the splenomegaly, because of the rarity of carcinomatous invasion of the spleen.

Anatomic Diagnosis

Lymphosarcoma involving:

Pleura

Lung

Liver

Pancreas

Spleen

Duodenal polyp

Mediastinal, supraclavicular, mesenteric, and periaortic lymph nodes

Hypertrophy of left ventricular myocardium.

Bilateral pleural effusion.

Acute endobronchitis.

Benign hyperplasia of prostate (mild).

What is the age at which the greatest number of deaths occur? In the United States, as constituted today, more persons die at age 71 than at any other age, except in the first year of life. In 1939—the latest year for which we have data available—there were 108,846 deaths of infants under 1 year of age and about 30,000 deaths of persons at age 71.—*Statistical Bulletin, Metropolitan Life Insurance Company*

A lawyer got into an argument with a physician over the relative merits of their respective professions.

"I don't say that all lawyers are crooks," said the doctor, "but you'll have to admit that your profession doesn't make angels of men."

"No," retorted the attorney, "you doctors certainly have the best of us there."—*Nebr. State Med. Jour.*

SEX EDUCATION FOR EVERYBODY

The American Medical Association has issued a series of booklets entitled: "Sex Education for the Adolescent," by George W. Corner and Carey Landis; "Sex Education for the Ten Year Old," by M. Marjorie Bolles; "Sex Education for the Pre-school Child," by Harold E. Jones

and Katherine Read; "Sex Education for the Woman at Menopause," by Carl G. Hartman; and "Sex Education for the Married Couple," by Emily Hartshorne Mudd.

These pamphlets are available for the public at the cost of 15 cents per single copy.

Therapeutics

CONFERENCES ON THERAPY

THESE are stenographic reports, slightly edited, of conferences by the members of the Departments of Pharmacology and of Medicine of Cornell University Medical College and the New York Hospital, with collaboration of other departments and institutions. The questions and discussions involve participation by members of the staff of the College and Hospital, students, and visitors. The next report will appear in the June 1 issue and will concern "The Use of Diuretics."

Treatment of Rheumatic Fever

DR. EUGENE F. DuBOIS: Fortunately, we have as our main speaker today Dr. Homer Swift of the Rockefeller Hospital, who is going to talk to us about the treatment of rheumatic fever.

DR. HOMER SWIFT: In our discussion of rheumatic fever are included the active cardiac manifestations of the disease, for consideration simply of rheumatic arthritis and the acute intoxication would hardly be worth an hour's time. We have therapeutic agents that are effective in controlling these arthritic manifestations but, if we consider the disease as a whole, it would require many hours.

Obviously, our treatment of any disease is conditioned largely by our knowledge of that malady, by our conception of its nature and etiology, and by the effects of drugs and other therapeutic measures that are at our disposal.

The therapeusis of rheumatic fever involves a great deal more than the mere treatment of the individual. With the concept of the disease most widely held today, it is also a public health problem. Unfortunately, the people most often affected are usually encountered in that class of society which is least able to care for itself either medically or economically. Numerous investigations have strikingly demonstrated among the British that it is ordinarily a disease of poverty. Probably a spot map of the cases in New York City would reveal a similar tendency and would reveal that the majority of rheumatic patients come from the poorer class of society. From such data it appears that the broader aspects of treatment lead us into the field of public health, for were it possible to limit markedly the effect of the early ravages of rheumatic fever there would probably be a marked drop in the incidence of severe heart disease in the third and fourth decades.

Rheumatic fever has various stages. We designate the earliest one as the acute stage, with severe toxic manifestations, high fever,

and exudative phenomena, such as is well illustrated by an acutely involved rheumatic joint, which is painful, swollen, red, hot, and tender, from which, under proper conditions, you can aspirate a certain amount of exudate. At this stage, if there were an accompanying carditis, one could doubtless find many polymorphonuclear cells in the most intensively involved portions of the heart. With pericarditis there is a serofibrinous effusion; with pleurisy, an exudate containing much fluid and many white blood cells. The patient at this period is usually extremely toxic. The laboratory findings will demonstrate rather striking abnormalities: There will probably be comparatively high leukocytosis, not so marked as in pneumonia, but between 10,000 and 20,000 white blood cells per cubic millimeter, and at this time the erythrocyte sedimentation rate is usually rapid.

At the other end of the active disease, when it has become chronic, these striking and easily elicited manifestations mentioned are rarely present. Fever is low grade or equivocal; leukocytosis is not marked and may not even be present. The erythrocyte sedimentation rate, while abnormal, is not nearly so rapid as in the early acute stages of the disease. In this subacute or chronic stage, according to our experience, one encounters relatively few exudative phenomena. The histopathologic abnormalities in this period are proliferative in nature. These proliferative lesions are most easily studied in subcutaneous rheumatic nodules, which clinically last for weeks to months. These lesions, moreover, comprise practically the only tissue that can be easily excised during the life of the patient, and numerous histopathologic studies have demonstrated them to be essentially proliferative and granulomatous in nature. The submiliary rheumatic nodules (so-called Aschoff bodies) in the hearts of patients who succumb to active rheumatic carditis contain similar cellular

components. As the granulomas disappear, they leave scars. In this granulomatous stage the disease may persist for months and sometimes for years. Moreover, the scars contain largely collagen, which is the tissue in which the primary injurious effect of the "rheumatic poison" exerts its chief action.

The protean picture of rheumatic fever results from varying combinations of the acute, subacute, and chronic manifestations and is conditioned to a considerable degree by the relative amount of involvement of the various organs.

In most patients the onset is characterized by acute toxic and exudative symptoms and signs. A few patients quickly pass out of this stage and go on to recovery without any further trouble. Most of them, on the other hand, recover only partially, then have one or more alternating cycles of improvement and relapses; and as time goes on the chronic manifestations become more conspicuous, consisting of low grade fever, high pulse rate, signs of progressive carditis, abnormal but low-grade increased erythrocyte sedimentation rate, and slight leukocytosis. A common feature of the disease at this late stage is an abnormal temperature and pulse response to relatively slight physical or emotional exertion. Probably most patients after recovery from a single attack could lead fairly satisfactory lives with the cardiac damage resulting from this primary attack, provided they escaped further recurrences of the rheumatic infection. The great importance of rheumatic fever is that a patient who has once suffered from the disease is liable to one or more subsequent attacks, and with each there is increasing cardiac involvement. By and large one may say that the amount of heart disease a rheumatic patient suffers later in life is roughly proportional to the number and severity of attacks of rheumatic fever he has previously experienced. Whether each one of these attacks a patient may suffer year after year, or even with intervening well periods of three to five years, is a relapse of an old chronic condition or is a new attack is a matter of opinion; and up to the present no conclusive evidence can be adduced to support either side of the argument. From both prophylactic and therapeutic points of view, it is important to remember that they occur; hence, it is necessary to consider the circumstances whence they seem to arise and to alter those circumstances in so far as such alterations are amenable to beneficial influences.

Some environmental influences, already mentioned, which may be of etiologic importance require additional consideration. These are the social status, the home surroundings, and the familial incidence of rheumatic fever; the latter has been well investigated by Dr. Wilson and others. Where these familial tendencies arise, I think, is a matter for more study, for one cannot dismiss the subject with a bare statement that either heredity or environment is the dominant factor. The picture at best is complicated, for in those families where multiple cases are demonstrable often there are also special opportunities for infectious agents, classifiable as respiratory, to be transmitted from one person to another.

At this point the possible etiologic role of hemolytic streptococci in respect to rheumatic fever should be discussed. I believe that role to be an important one. Moreover, it seems to me that we have argued ourselves into a state of defeatism concerning the etiology of rheumatic fever because of the peculiar evolution of our current knowledge of this disease. If we should consider, perfectly objectively, certain well-established relationships, perhaps we might demonstrate some factors that are subject to control.

For example, from Denmark, where both hemolytic streptococcic sore throats and rheumatic fever are officially reportable, Madson and his coworkers have reported several series of epidemics, occurring in various years, where outbreaks of streptococcic angina were followed by significant rises in rheumatic fever in the streptococcic-infected population. The peaks in the streptococcic epidemics preceded those in the rheumatic fever cases by two to four weeks.

In the British Navy, Green observed the following relationships. In training ships where young recruits were introduced in two different categories, the incidence of streptococcic sore throats was maintained at a high rate, and numerous cases of rheumatic fever occurred among the infected youths. One group of boys who were training to become technicians were admitted to the ships every three months; the others, training to become common seamen, entered the ships every week or two. This mode of admitting boys to the ships closely resembled that observed by Webster at the Rockefeller Institute and Topley and his coworkers in England to be the most favorable for maintaining a high sick rate among experimental animals subjected to certain epizootic diseases. Interrupting the constant

introduction of new susceptible subjects resulted in a drop in the epizootic diseases in the animal colonies. Likewise, limiting the admission of new classes of naval recruits to three monthly intervals was followed by a marked drop in streptococcic sore throat and a nearly complete disappearance of new cases of rheumatic fever. The relationship seemed statistically significant.

The high incidence of significant increases in so-called antistreptolysin O in the serum of rheumatic fever patients indicates that most, if not all, of these patients are suffering from hemolytic streptococcic infections.

Finally, in chemoprophylaxis, to be discussed more fully, there is highly suggestive evidence of a significant etiologic role of hemolytic streptococci. When the administration of a drug prevents the occurrence of both a specific infection and a secondary condition, possibly due to that infection, there is great probability that the primary infection and the secondary condition are causally connected. One must, of course, admit that the same drug might be prophylactically effective in two different and nonrelated diseases in the same person; but, when all of the above-mentioned phenomena are considered, one emerges with a firm conviction that the etiology of rheumatic fever is closely linked to hemolytic streptococcic infections.

In connection with this sketchy discussion of hemolytic streptococci and rheumatic fever, one naturally should try to answer the question of how these microorganisms cause this peculiar disease in certain infected people and not in others when the tissues of both groups have been invaded by hemolytic streptococci. One can best answer that on the basis of tissue reactions peculiar to the rheumatic subject and cite the protean manifestations of syphilis as an illustration of the result of differing tissue reactions. During his entire morbid life, a syphilitic individual is harboring the same strain of spirochete: first, the localized chancre; then the widespread roseola; then periods without any visible active rash, followed by successive rashes or visceral lesions ever more and more localized but increasingly focally intense until the tertiary gummatous stage is reached. Artificial reinfection at any stage will, if at all effective, induce lesions usually encountered in the patient at that stage. Obviously, the differences in the syphilids are due to the patient's peculiar partial immunity and tissue reactivity.

Leaving this hasty sketch of a rough parallel in syphilis and rheumatic fever, we must con-

sider the therapeutic indications of the latter at various stages. In the presence of the acute disease, we must try to combat the toxic manifestations. That is obvious, if we can. No single specific strain of streptococcus has been demonstrated as the cause of the disease, but many different types appear to be implicated. We have no antitoxic serums that will combat these acute manifestations. In fact, a strange phenomenon is that many antistreptococcus serums, when given to these patients, make them worse. That is an old observation that has been repeatedly reported by physicians attempting serotherapy.

In the acute stage there are usually high fever, rapid pulse rate, and exudative migratory polyarthritis. Fortunately, to combat them we have certain drugs with remarkable properties. In all of the field of therapeutics, there are few, if any, more marked effects than those induced in these acute rheumatic manifestations by suitably given doses of salicylates, neocinchophen (mentioned because of historical interest), and aminopyrine (pyramidon). The third acts more strikingly and rapidly in reducing the fever, eliminating the toxicity, and relieving the polyarthritis of rheumatic fever than any other drug I have encountered.

The side actions of these various drugs are known to you. The least dangerous, but probably the most troublesome, are those of the salicylates and are included under the general term of "cinchonism." Neocinchophen has similar side actions, with the additional possibility of hepatic damage. Aminopyrine, as you know, has an untoward effect in depressing the function of the blood-forming organs in certain patients, which eventually may lead to a serious or fatal granulopenia. Fortunately, in our experience we have seen only 1 individual with rheumatic fever where the drug had to be withdrawn because of a dangerously low white blood count. But in view of the side actions of this drug, if the patient develops a white blood count as low as 4,000 or 5,000, one naturally discontinues its use.

What are the relative advantages of each of these drugs? Salicylate is probably the safer, but the peculiar benefits from aminopyrine, in my opinion, arise from the fact that many patients with a marked acute rheumatic carditis and secondary congestive manifestations involving the gastrointestinal tract tolerate salicylates poorly; in such patients aminopyrine is the drug of choice because of its lack of unpleasant gastrointestinal irritation. Pa-

tients can take aminopyrine and digitalis together much more easily than they can take salicylates and digitalis because each of the latter induces nausea and vomiting in the higher dosage. Digitalis is indicated, I think, in patients with acute rheumatic carditis in whom heart failure with congestive manifestations has occurred. One encounters the opinion that this drug has no beneficial effect in acute rheumatic carditis, but I feel that perhaps these therapeutists have not given it with full appreciation of all of the complicating factors. Unfortunately, in these patients the electrocardiogram is a less reliable guide than in the case of simple congestive heart failure because digitalis and rheumatic carditis induce similar electrocardiographic pictures; so, in giving this drug, one must be guided by a careful study of the patient who is evincing these peculiar manifestations of acute cardiac damage.

When a patient in the acute stages of the disease has been rendered symptom-free, the antirheumatic drugs are gradually withdrawn. In checking the effect both of giving and withdrawing these drugs, a chart is most useful whereon one documents daily the various symptoms and signs and the dosage of drugs. The relationship between drug therapy, natural resistance, and symptoms will thus stand out more clearly. Too rapid withdrawal of the drugs results in a return of the symptoms and signs. Proper drug therapeutics will keep the patient symptom-free and thus permit an easier maintenance of a proper nutritional state, for a patient suffering from severe intoxication and wracking pain is difficult to nourish. Indeed, a full nutritious diet, easily digestible, is an important part of a rheumatic patient's care.

In the subacute and chronic stages of the disease, one often has to cater specially to a capricious appetite; and the weight chart is one of the important guides to the patient's condition.

Because of the frequency with which the heart is involved, one pays special attention to protecting that organ as much as possible; and the most important measures in this respect are properly enforced rest and slow restitution to normal physical activity.

In my talk in 1940, I tried to point out that if you had a pair of sore joints in your two index fingers and you cracked them together 120 times a minute, you might gain a little conception of what is happening to the heart valves. If you could reduce that effort by ten counts a minute you would save 14,000 movements a

day. If you reduce the pulse from 120 to 100, you have saved 28,000 impacts on the heart valves. Such a saving of motion not only reduces the total amount of functional valvular trauma but increases the total period of diastolic rest, which favors recovery. The antirheumatic drugs by their antitoxic, antipyretic, and antiphlogistic actions all tend to reduce the heart rate and, if for no other reason, are of distinct benefit.

There is ample evidence for the statement that these drugs will not prevent the proliferative manifestations once they start to appear, so you cannot rely entirely upon drug therapy to bring about a cure, but you must apply all other available therapeutic measures in this chronic stage of the disease, such as properly enforced rest, good food, suitable psychotherapy, and carefully regulated convalescence.

There have been two measures of chemoprophylaxis advocated: the sulfonamides and the salicylates. You may have seen the recent report of Thomas and her coworkers in Baltimore, where over a four-year period they have given sulfanilamide to patients, adolescents and adults and a few children, who have previously suffered one or more attacks of the disease without any recurrences being observed; but in the group of untreated controls there were 10 per cent of relapses. The prophylactically treated patients took small doses of sulfanilamide daily from October to June.

Drs. Coburn and Moore, in a comparable study of children here in New York, have noted a similar effect, but they observed more toxic manifestations of sulfanilamide when given over a long period. Recently, Kuttner has made similar observations in a most carefully controlled study. One cannot lay too much emphasis on that phase of this problem, for, as is known to you, any patient who is subjected to this kind of chemoprophylaxis should be most carefully observed.

Practically none of Dr. Thomas' patients had to be withdrawn from the treated group because of toxic manifestations. The average dose of sulfanilamide administered was 1.2 Gm. a day. In other studies that have been reported the dosage per day was from 2 to 3 Gm. That difference in dosage may be important, for, if the smaller amount is sufficient, it is probably a safer procedure (namely, 1.2 Gm.). The final decision concerning effective prophylactic dosage and relative danger from prolonged administration must await further observation in various places, but that there is a definite effect we must accept.

Another prophylactic measure that has been reported by Schlesinger and others in England is the administration of fairly large doses of salicylates (in the form of aspirin) to rheumatic subjects after the onset of the streptococcic sore throat. For a moment it may be well to contrast these two prophylactic technics. The usual course of events is as follows: streptococcic infection; latent period of from a few days to three weeks; rheumatic fever. The administration of sulfanilamide does not appear to prevent the rheumatic fever, if postponed until after the onset of the streptococcic infection; and incidentally, it has no beneficial effect when given to patients with active rheumatic fever. On the other hand, Schlesinger reports that aspirin when administered to rheumatic subjects immediately after the onset of the streptococcic infection and during the time of the usual latent period prevents the expected rheumatic fever. Whether this is merely a masking of clinical symptoms or a true prevention of rheumatic fever has not been determined, for the antisymptomatic effect of salicylates is well recognized, and to arrive at a definite decision the aspirin-treated patients should be studied with all available laboratory technics as well as by simple clinical methods, for laboratory methods often reveal the presence of rheumatic activity below the clinical horizon. The masking of the true picture of rheumatic fever by salicylates has probably been one of the most potent inhibitors in the studies of the true nature of this disease.

I have exceeded the time assigned me by Dr. DuBois, so in spite of many features that might have been considered, we must pass on to the more informal discussion.

Dr. DuBois: It would be interesting for the record if you would give us the usual dosage of the salicylates and aminopyrine and neocinchophen that you use.

Dr. Swift: The average dose of salicylates, for sodium salicylate—and we always give that with a little excess of sodium bicarbonate—varies from 7 to 10 Gm., divided throughout the day; that is, at the beginning one tries to saturate the patient and then to drop the dose to a point below which the patient is free of the toxic manifestations of salicylism and of the unpleasant symptoms and signs of rheumatic fever.

We found the doses of neocinchophen to be about the same. I mention neocinchophen only because at one time it enjoyed quite a vogue, but today it is little used for this condition.

Aminopyrine, for the average child, is given in a total of somewhere between 1.5 and 2 Gm. a day. For an adult you may give from 2 to 3 Gm. a day. It is important in administering aminopyrine to divide the dose so that the patient is under its influence constantly. It took us a year or two to detect this feature, being used to giving salicylate during the day and having the effect carry over through the night. We did not appreciate that aminopyrine is excreted rapidly, and one must give it from early in the morning until late at night so that the patient never escapes the influence of the drug.

Dr. DuBois: You wake the patient during the night?

Dr. Swift: No, the first dose is given when he awakes in the morning and his last dose at eight or nine o'clock at night; do not let twelve-hour intervals elapse between the night and morning dose.

Dr. DuBois: Have you used the sulfonamides?

Dr. Swift: Not prophylactically; I merely reported to you what others have done. Children have received 2 to 3 Gm. daily, which looks pretty high. The Baltimore Group report their dose as being about 1.2 Gm. per day, and with children I think it might be smaller. I do not know what eventually will be found efficient because more study is needed to settle this point. Possibly some other sulfonamide derivative will be better.

Dr. DuBois: When you are giving the so-called dangerous drugs such as neocinchophen and aminopyrine, how often do you take blood counts?

Dr. Swift: Once a week with patients in the subacute stage or chronic stages, but in the acute stages more often.

Dr. DuBois: You would not be giving these drugs in large amounts?

Dr. Swift: We might be giving the patients aminopyrine up to 2 or 3 Gm. a day.

Dr. DuBois: These patients are observed daily because they are in the hospital, but would you advise treatment with those drugs in private practice outside of the hospital?

Dr. Swift: Yes; why should not the doctor practice good medicine in the patient's home?

Dr. DuBois: Are there other questions?

Dr. C. H. Wheeler: I should like to ask Dr. Swift if there is any justification for the use of neocinchophen?

Dr. Swift: I do not think so today.

Dr. Wheeler: You do not mean to imply that it has a place in the treatment of rheu-

matic fever comparable to that of salicylate?

DR. SWIFT: I do not think so. There were some patients in the study we made during a period of two or three years who seemed to tolerate it better than salicylate; but today my drug of choice is aminopyrine. I realize that I am in the minority advocating it as a therapeutic agent; but, if you see a child or an adult with a marked acute rheumatic carditis, with nausea, vomiting, and passive congestion of the abdominal viscera, who has difficulty in taking the salicylates but responds well to aminopyrine, you would feel that the benefit outweighed the dangers. Furthermore, if there is a possibility of digitalis intoxication, you can detect it so much more easily. That to my mind is one place where aminopyrine has a great advantage over salicylates.

I know that Dr. Conner and many others like to administer salicylates by rectum to patients who cannot tolerate it by mouth. There are many patients who benefit by this change in route of administration. Don't you think that is so, Dr. Conner?

DR. LEWIS A. CONNER: I think most people tolerate adequate doses so poorly by mouth that in the hospital we have found it was simpler to make the rectal dosage the regular routine thing.

DR. SWIFT: You use starch paste as a vehicle, do you not?

DR. CONNER: No, we give it in plain watery solution, but we found that we could not use a strength greater than 10 grains to the ounce without getting some rectal irritation. The patient lies on his left side. The solution is introduced gently so that the fluid trickles in. This causes no reaction from the bowel. The liquid goes up into the sigmoid and is apparently absorbed just as effectively as a corresponding amount given by mouth.

DR. SWIFT: I can testify to that, because prior to the introduction of these other drugs, when we depended on salicylate alone, I resorted many times to that way of giving salicylates.

DR. DUBOIS: May we hear from Dr. May Wilson?

DR. MAY WILSON: I do not happen to belong to the group who believe that the streptococcus plays an important role in rheumatic fever.

I should like to ask Dr. Swift what evidence there is that chemotherapy will prevent streptococcal infections in nonrheumatic individuals? Are you familiar with any good study?

DR. SWIFT: Yes, there are many convincing studies in animals and comparable studies

in some institutional streptococcal epidemics. Individuals receiving this drug remained free from disease, while untreated controls contracted streptococcal pharyngitis and laryngitis.

DR. MCKEEN CATTELL: As I remember it, your studies and those of others have shown that sulfanilamide compounds have no value in the treatment of the disease after it has developed. I wonder how you reconcile its value as a prophylactic agent under those circumstances.

DR. SWIFT: I don't know. Something seems to occur in the tissues between the time of the streptococcal infection and the onset of rheumatic fever which alters their reactivity compared with that of a patient before the onset of the streptococcal infection. We may designate this as a peculiar type of partial immunity with hypersensitivity. Moreover, by the time the rheumatic manifestations occur, the patient has been harboring the streptococci in his tissues, especially in his cervical lymph nodes, for weeks, and it is now well known that it is difficult to eliminate streptococci from such lymphoid structures as tonsils even with intensive sulfanilamide therapy. The fact remains that this drug has no demonstrable beneficial effect in a patient with full-blown rheumatic fever.

DR. HARRY GOLD: Do you hold that aminopyrine, the salicylates, or neocinchophen have an effect on the exudative phase of the disease? You did say that the productive phase is not influenced by these drugs. Or are these drugs purely symptomatic in their effects? They relieve pain; they reduce fever; and they make the patient feel better. But if an effusion in the pleural cavity is going to develop, is it less likely to occur, or will it disappear sooner, if these drugs have been used?

DR. SWIFT: Long ago, we talked about antiphlogistics. Do you remember them? Well, to my mind, these are the most beautiful examples of antiphlogistics that one can find in the whole range of therapeutics. In patients receiving these drugs, the pain goes first. This phenomenon may result from some action on the nervous system; but, if you carefully record the subsequent state of diseased joints, you will see the swelling, the redness, the heat, the whole phenomenon designated as an inflammatory process, disappear quite promptly, and the effusion in the joint cavities is usually gone within twenty-four to forty-eight hours.

Probably if you pharmacologists and the

immunologists could combine to study these effects, something interesting would result. It looks like a true antitoxic effect, but that does not mean it is.

On the other hand, I have seen patients under full doses of the drugs, 10 or 11 Gm. of sodium salicylate a day, who developed numerous subcutaneous nodules and others who were taking 2 Gm. of aminopyrine a day and nodules likewise appeared.

It is not just an academic exercise to divide the manifestations of the disease into exudative and proliferative. Really to be guided by that concept is an important factor in therapeutics. What the drugs cannot do, you should not expect them to do. If you think, however, that they are curing all manifestations, as is the case with some physicians who give rheumatic patients these drugs and then allow them to be up and about, you fail to obtain the results you anticipate. The Aschoff body is merely a granuloma in the heart muscle; I do not think we prevent the formation of Aschoff's bodies with these drugs.

DR. GOLD: Bearing further on this point, may I ask one more question? In the case of a child with active carditis, with effusions in the pleural or pericardial sac, but without pain and with only low-grade fever, would you be inclined to use salicylates?

DR. SWIFT: Yes. You know, Dr. Boas and some of his associates have recently written a paper where they indicate that the giving of large doses of salicylates has the same effect on the pericardial effusion, perhaps a little slower, as on the effusion in the joint.

DR. CONNER: I should like to have your comments on one point: As you have said, in the fulminating cases with joint and pericardial effusion in desperately sick persons, adequate doses of salicylates and bicarbonate of soda result in dramatic improvement; sometimes, within two or three days, this tremendous effusion in the pericardium will seem to have disappeared completely. That has been my usual experience, but every once in a while, with a patient that seems to be exactly the same, the salicylate will not produce any obvious result. They will go on with pericardial effusion over a period of several weeks with apparently no response to salicylates, and I have never understood it.

DR. SWIFT: Well, Dr. Conner, I have seen on rare occasions patients with typical polyarthritis rheumatica who failed to respond satisfactorily; why those individuals do not respond, I do not know, but certainly such failures occur in polyarthritis. There are sim-

ilar failures in pericarditis. Years ago, Dr. Frank Billings advocated the use of sodium cacodylate in the treatment of rheumatic pericardial effusions. In comparing the results in our patients who were receiving salicylates, we noted that the effusions disappeared just as quickly as in Dr. Billings' cases.

DR. DuBOIS: May we hear from Dr. Murray Angevine? We are anxious to develop differences of opinion.

DR. MURRAY ANGEVINE: This is one time the pathologist has no card up his sleeve. Most of my questions have already been answered, but there are one or two I should like to ask Dr. Swift. In addition to the various chemotherapeutic methods that have been used, what precautions would you take to keep these patients from surroundings where they might be exposed to hemolytic streptococcal infections? I should also like to have you comment on the value of tonsillectomy and things of that nature in this disease. Is it worthwhile considering the matter of teeth extraction, since we occasionally see Streptococcus viridans in subacute endocarditis associated with the teeth extractions in these patients? Another question: Would you say a word or two about the value of climate? As far as the drug question goes, this discussion seems much like the ones we had when I was a medical student. The questions I have asked concern problems that are the hardest to answer and most difficult ones on which to give adequate advice to parents bringing in a child with rheumatic fever.

DR. SWIFT: If prophylaxis is closely bound up with prevention of distribution of respiratory pathogens, especially hemolytic streptococci from one person to another, we have hardly made a start compared with the measures that have been elaborated for the prevention of gastrointestinal infections, such as typhoid fever or bacillary dysentery. Admittedly, the problem is more difficult, but it will only be solved by more investigation, correct thinking, and new sanitary rules. From personal experience, however, I can testify as to the comparative efficacy of immediately boiling all utensils that come in contact with infectious material from a patient with infections of the upper part of the respiratory tract and also of isolating the patient while he harbors heavy concentrations of this infectious material. A cheap dishpan in which all dishes, napkins, etc., are immediately boiled is a sound investment. The prevention of dust-borne and clothing-borne infectious material demands more attention and new tech-

nics. Constant thought of how to diminish the danger of disseminatory streptococcic infections is important, for certainly with our current knowledge concerning the relation of these infections to rheumatic relapses one would be quite negligent of suitable prophylactic precautions should he willingly allow a rheumatic subject to come into intimate contact with a patient suffering from a hemolytic streptococcic infection. This statement is valid whether one believes that hemolytic streptococci are the direct etiologic agents of rheumatic fever or are the "detonators" that set off the explosion designated as rheumatic fever but possibly due to some other agent. How far we must travel before we institute satisfactory rules for prevention of hemolytic streptococcic infections is illustrated by those currently used in scarlet fever. The rash and peeling are still considered more important guiding criteria than the cultures of the patient's nose and throat, where as a matter of fact the rash is merely the indicator of the patient's lack of immunity to the erythrogenic toxin elaborated by streptococci growing in his nose or throat.

The question of tonsillectomy can be considered from two points of view: that of the patient and that of the disease. If diseased tonsils appear to be interfering with the welfare of the patient, they should be removed. Statistically, there is little evidence to indicate that tonsillectomy prevents a rheumatic relapse, but there is some statistical evidence indicating that in large groups less rheumatic fever occurs in children whose tonsils have been well removed than in those who retain them. Removal of tonsils does not insure freedom from future streptococcic infections, for much lymphoid tissue is left in Waldeyer's ring, and we now appreciate that streptococcic rhinitis may be as important a precursor of rheumatic fever as is tonsillitis caused by the same cocci. We have probably focused our attention too closely on the tonsils and neglected to study the diseased state of neighboring structures.

In considering dental infections, similar criteria should be applied. Diseased teeth or abscessed roots should be removed in the interest of the general health of the patient and, occasionally, one observes a cessation of rheumatic fever shortly after extraction of a diseased tooth.

DR. ANGEVINE: I did not mean in reference to rheumatic fever but to subacute endocarditis which occurs occasionally following tooth extraction. The streptococci are then

found in the blood stream. These cases are not numerous, but we have seen them.

DR. SWIFT: Yes, one occasionally observes the onset of subacute endocarditis that seems to start at the time of a tooth extraction. This is easily understood when one appreciates that there is often a temporary bacteremia of a few hours' duration shortly after a tooth extraction. Normal persons usually dispose of these temporary bacterial invaders without permanent injury, but in people with distorted cardiac valves the streptococci, usually green or indifferent, become implanted on the abnormal valves, grow into their deeper portions, and give rise to fatal endocarditis. Similar temporary bacteremia and sequelae may follow tonsillectomy or other operations on the nose and throat. Because of the bacteriostatic influence of sulfanilamide, it is probably advisable to give these rheumatic cardiac patients prophylactic doses of this drug just before, and a day after, subjecting them to any of the above-mentioned operations.

With regard to climatic treatment, if a patient can conveniently and economically be moved to a southern zone where rheumatic fever is less severe and respiratory infections are less frequent than in his usual surroundings, he would probably be helped by the move, but one should be certain that the climatic environment is favorable and the exclusion of respiratory infections probable. The latter condition often does not hold in some of our southern resorts where several trainloads of patients add their "colds" to the atmosphere each day.

In summary: The more important drugs employed in the acute stages of rheumatic fever are the salicylates and aminopyrine. Of these, the salicylates are the safest, and they are given in the form of the sodium salt in divided doses totaling from 7 to 10 Gm. per day. In patients with rheumatic fever these salts frequently cause gastrointestinal irritation, in which case aminopyrine is the drug of choice. The dose for children is between 1.5 and 2 Gm. a day; for adults, from 2 to 3 Gm. per day, always in divided doses. Because of the well-known tendency of aminopyrine to affect the granulocytes, it is important that white cell counts be done at least once a week and the drug discontinued if the count falls below 5,000.

An understanding of the different stages and manifestations of rheumatic fever and of the action of the drugs available for combating some of the symptoms should make us appreciate that although these drugs alleviate the

acute toxic symptoms and eliminate or suppress the exudative manifestations they apparently do not cure the disease. Therefore, good treatment comprises proper nutrition, prolonged rest, carefully regulated convalescence, and minute observation of the patient for relapses that may be manifest only below the clinical horizon. Because of the apparent close connection between hemolytic strepto-

coccic infections of the upper part of the respiratory tract and rheumatic fever, these patients should be specially guarded against streptococcic infections. Recent studies in which prophylactic daily doses of the sulfonamides or salicylates have been employed give promise of reducing the likelihood of relapses.

SHOULD DOCTORS TELL THE TRUTH?

Not infrequently in the practice of medicine such a problem as this arises: A woman with a suspicious lump in her breasts consults a doctor. She is accompanied by her daughter or a relative or friend who, in a private interview, requests the doctor not to tell the patient that she has cancer, if this is the diagnosis, because the patient will be profoundly shocked if she knows the truth. The doctor is urged to inform the patient that the tumor is benign, even if he believes it to be cancer.

Many years ago, the late Dr. Richard C. Cabot conducted an investigation as to the wisdom of truthfully informing patients about their disease. Using as controls patients who were purposely deceived about their condition, he concluded that from the clinical standpoint alone the patients who were told the facts seemed to do better than those who were deceived. If a policy of deception is deliberately pursued, the patient sooner or later usually learns the facts. There can be no intelligent cooperation in the treatment. The relative or friend will unconsciously lose respect for the veracity of the doctor, whether he be family physician or surgeon. If in the future the daughter has a lump in her breast and goes to the same doctor and he tells her that the growth is not malignant, the daughter will think he is deceiving her, too. How is she to know when he is telling the truth?

Thus an increasing distrust of the medical profession is bred. The very basis of scientific work is a search for truth, and doctors in the operating room, or at the bedside, or in the laboratory cannot consistently pursue the search for truth when in their communications with the patients they are purposely suppressing it. How can we expect an intelligent public to respect a profession that deliberately deceives the patient?

How can a patient reach a proper decision as to the adoption of the doctor's advice for treatment of an ailment if the fundamental facts in the case are withheld from the patient? Of course, it is unnecessary to pour brutal truths into a patient's

ear unless the patient wishes to know the truth. When the patient's relatives earnestly request that an offensive diagnosis be withheld, the doctor may respect such a request by telling the patient that this information has been imparted to the family and he prefers not to discuss the case with the patient. Then the relatives and friends can do their own lying.

Naturally the doctor should put as optimistic an outlook on any clinical situation as the facts will justify, but this is quite aside from adopting the policy of telling the patient that there is no malignant disease when the doctor believes that the patient has cancer. We owe it to the public and to ourselves to tell the patient the true situation, if the patient requests this information, and to maintain a policy that will not only be worthy of the fullest confidence of the public but at the same time will not tend to weaken our own respect for truth.

An additional incentive for telling the patient the truth is reported by Dr. Elmer Belt, of Los Angeles (*Journal of Urology*, 46:1017-1018, November, 1941). He operated upon a patient for carcinoma of the prostate. The daughter of the patient requested Dr. Belt not to tell her father that he had cancer, and the doctor complied with this request. The patient later found that he did have carcinoma of the prostate and filed a suit against Dr. Belt for \$113,500 for not telling him that he had cancer. The patient had made some financial commitments which he would not have made had he known that death was imminent. The patient said that he knew his daughter was a partner in the false presentation but he could not sue her, so he sued the doctor. The doctor employed the best legal minds to help in the problem, because this point had never before been tried in court. There were extensive preparations for the suit, but the patient died just before the suit came to trial. So this legal point is still pending.—"*Guest Editorial*" by J. Shelton Horsley, M.D., in the *Virginia M. J.*

MEDICAL LIBRARY ASSOCIATION TO MEET

The Medical Library Association will hold its forty-fourth annual meeting in New Orleans, May 7-9, 1942.

The hosts are the Rudolph Matas Medical Library of Tulane University, the Orleans Parish Medical Society Library, and the Agramonte

Memorial Library of Louisiana State University Medical Center. Hotel headquarters will be at the Jung Hotel. The program will feature tropical medicine and southern medical history. The president of the association, Miss Mary Louise Marshall, will preside.

Special Article

NEW YORK STATE'S PUBLIC MEDICAL CARE PROGRAM

LEE C. DOWLING, Albany, New York

Deputy Commissioner for Public Assistance of the State Department of Social Welfare

AMERICAN physicians are watching the development of the public medical-care program sponsored in New York exclusive of New York City by the State Department of Social Welfare and the Medical Society of the State of New York.

This public medical-care program is an unusual one, for several reasons. One reason is that, unlike most programs looking valid on paper, this one survived all the pressures against which most blueprint-programs crumble before they reach the performance stage. Further, of particular point to practitioners, this plan comprises a partnership of government and the medical profession, functioning cooperatively in the interests of the public health and welfare—without endangering medical standards or threatening the professional interests of the practitioner. A third unique factor is that this plan emphasizes the quality of medical care and actually provides administrative procedures to measure qualitative standards. Started less than two years ago, an approved local medical-care plan has already been adopted or is in course of active preparation by twenty-six counties and cities in New York State.

This program is one of the few successful large-scale attempts to utilize local public and private medical facilities for the benefit of dependent men, women, and children who need these services. That this was done without regimented socialization of private medicine, without injury to the doctor-patient relationship, without adversely affecting the economics of private practice—and with a measurable improvement in the quality, quantity, and efficiency of medical services—is a singular achievement arousing widespread interest among the medical, welfare, and other groups.

To understand intelligently the full significance this movement may hold for the American physician, it is necessary to review the situation existing two years ago when the State Department of Social Welfare was faced with the problem of creating a long-range program through which many thousands of public assistance recipients might receive medi-

cal care of a high order, through efficient and coordinated local community services and facilities, at a cost within the limited medical relief funds available. There were over one hundred local communities in the State—rural, suburban, metropolitan—that an overall program had to fit, localities in which the quality and quantity of medical services ranged from excellent to zero, districts in which facilities and resources were uncoordinated, costs out of all proportion, public and private medical agencies of widely varying effectiveness and standards—as many schemes of providing medical relief service as there were localities. The proposed plan had to consider all this, and deal with it realistically—successfully.

There were other challenges. The diverse public medical services and systems had crystallized into conventional routines and customs over long periods of time. They were becoming inviolable heritages and appendages of local government. The localities in New York State, as much as any other place in America, were sensitive to suggestions, plans, and proposals advanced by the State government. Community pride, vested interests, local autonomy, opposition to change, skepticism of the new—these and other factors were strong enough to wreck the best paper planning.

Then, of course, there was the medical practitioner, around whose skills the whole program devolved. In these days of rapid expansion of government services, the New York State doctor is no less suspicious of government medical-care proposals than his colleagues throughout the country. Besides, there was the emergency medical-care program identified with the hectic depression days when the State had to set up a tremendous relief program to care for hundreds of thousands of destitute families. So great had been the mass of human want, the emergency relief administration had had little opportunity to carefully build a substantial public medical-care service. It had to use whatever local medical services were available, was constantly reminded that

it was an emergent and temporary organization only, was sharply attacked whenever it discussed the permanent aspect of any of its work, particularly public medical care for the public-assistance case load.

So the public medical-care program was never what it might have been, what was desired by recipients, doctors, and the relief administrators. The doctor had his complaints—about numerous forms, about prior approval by the State agency for proposed medical expenditures to be made by the localities for expensive or special drugs, appliances, and services. Many of these complaints the doctor brought to his local medical society. The local medical society carried them to the New York State Medical Society. The State group brought them to the emergency relief administrators. The latter did what they could, but with overnight changes in federal relief programs, and reimbursements and everything else in a state of flux because the public had been led to believe that large-scale want was to disappear soon, the State relief administrators were not able to do all that had to be done to correct flaws in the public medical-care program.

And so this conditioned the attitude of the medical profession toward medical welfare programs. The pressures for health insurance and various other schemes did not help to alleviate the situation. The State Medical Society was adamant in its insistence on maintaining policies which the Society felt were essential to the best type of medical care.

This, in substance, was the situation that faced the State Department of Social Welfare when it assumed responsibility for the home relief population and the associated public-assistance medical-care program upon the termination of the State Temporary Emergency Relief Administration. It set for itself the goal of extending those medical services to recipients of home relief, old-age assistance, blind assistance, dependent-children aid, and to nonrelief persons who could not provide themselves with medical care. However, the Department knew that existing local medical facilities and services had to be so reorganized and coordinated as to assure improvement in the quality and quantity and efficiency of local medical services, or it would be building on an uneven and false foundation.

The Department decided to hold fast to two things: (1) its primary objective of providing adequate high-standard medical care to the public-assistance case load at costs within its limited medical funds, and (2) its

realistic concept of the multitudinous difficulties presented by community mores, wide range of public medical standards and facilities in the 105 districts, and the attitude of the medical profession toward government's bearing social gifts, particularly medical-relief schemes.

The Department invited representatives of the State Medical Society's Subcommittee on Medical Relief and the New York State Association of Public Welfare Officials to discuss a proposed public medical-care program. It was not long before several things became quite clear: the doctors and the welfare commissioners did not talk the same language, except when they expressed a healthy skepticism about State government proposals. The medical profession questioned the validity of welfare commissioners—the great majority of whom are laymen—directing medical-care programs. Under the law, however, the welfare commissioner is legally responsible to his community and to the State for the entire conduct of his department, and he can neither delegate nor share his responsibility. The doctors' attitude represented a threat to the powers of the local welfare commissioners. The latter saw no reason for the medical profession to question what had been going on for decades, even centuries, in some communities. When these factors were not supplying the fuel for discussion, the State regulation for its specific approval for certain local medical expenditures and a host of other things that both doctors and welfare commissioners remembered with great clarity and completeness, stimulated lively debates. On such issues, both doctors and welfare commissioners joined, only to separate again when the question of laymen directing medical care bobbed up. Finally, the whole thing became bogged in interminable debates about doctors' fees. It appeared that it was impossible to discuss a program even academically.

But the committee* refused to give up. State Social Welfare Commissioner Adie and his staff were determined that the public-assistance population was going to get good medical care and that local medical-care programs must meet certain reasonable standards of medical service, efficiency, and utilization of community medical agencies. There was at least one spot of common ground upon which all the groups could meet—good medical care for human beings in need of that care and without the means of providing it for

* The author of this paper was chairman of the committee.

themselves. Every man in the conference room was dedicated to that principle, professionally, officially, or personally.

Starting on that base, the subsequent discussions were rigidly confined to principles, to broad general concepts. Fee schedules, procedures, customs, everything else, was excluded. More light and less heat came into the discussions. Finally, a statement of principles was drawn up, as follows:

The medical profession should participate in all medical phases of the proposed program; all physicians and local medical societies should be encouraged to participate in the planning and operation of the local medical-relief program; complete decentralization of control in medical matters (eliminating State agency's specific approval of certain medical expenditures); free choice of doctors; use of salaried medical practice in the program where so chosen by the local community; use of clinics; inclusion of nonrelief families in the public medical-care program.

In general, all groups agreed to these principles. But the medical profession did not approve of the permissive "contract" practice or the use of clinics without rigid restrictions. Nor does it approve of these factors today, even though it endorses the new public medical-care program now in successful operation. But, to have opposed these two principles, to the point of wrecking the whole medical program, would have been alien to the best interests of tens of thousands of people in real need of medical care. Then again, the proposed medical-care program permitted several methods of providing physician's services: fee basis, either giving the patient free choice of physician or limiting the choice to a selected panel; use of public or private clinics; and salaried staff physicians to treat patients in their offices and in patients' homes, with specialists' services on a fee-for-service basis. These were methods in common use in New York communities for decades. A program that would have restricted physician's services to the fee basis would have foredoomed the program to failure in scores of communities which would not have accepted such dictation from either the State Department of Social Welfare or the medical profession. Consequently, despite its historic and continuing opposition to "contract" practice, the Medical Society of the State of New York could not assume the responsibility of taking an adamant stand which would have stopped a meritorious state-wide effort to provide higher standards of medical care to a

great number of citizens; nor could it realistically place itself in a position of imposing patterns of public services upon communities which have a democratic right to select their own modes of government and to determine their own levels of public service, however short those levels may be of the objectives of the medical profession.

The State Medical Society realized that the local community had a free choice in selecting the method of securing physician's services under the proposed program and the medical profession had an educational responsibility to see that the community chose the proper method. The State Department of Social Welfare refused even to entertain the notion of mandating the communities by forcing them to accept the fee basis, for it was contrary to democratic processes of government. The Department said its experience did not indicate the need for such a measure, and it could not do so under the Social Welfare Law. Further, it pointed out that this was a plan adapted to the locality and it was the medical profession's responsibility to convince the communities that what the medical society advocated was in fact the best method. Since the State and local medical societies were completely free to promote and encourage the fee basis, the basic policies of the proposed public medical-care program were approved by the State Society.

The same elements were involved in the principle of use of clinics, to which the State Society objected. Clinics were exploited to avoid payment of fees for services in some communities—many communities, the Society charged. Clinics should be used when medically desirable, but when exploited they are unnecessarily burdened, cutting down the time available for attention to each case. The patient is deprived of the right to be attended by his own physician. The hospital outpatient department should be used as a diagnostic center and treatment auxiliary by the private physicians and not as a catch-all for every sort of case. Evidence of these points was presented in the discussions, in which the State Medical Society explained that it could not endorse the principle of the use of clinics without restrictions which would safeguard the general practitioner from the abuses and exploitation that exist.

The Social Welfare Department understood the position the medical society had to take in the matter. The Department explained that its proposed plan would supplement and not duplicate or supplant existing facilities; that the plan was not, and could not be, a

panacea for all the weaknesses, flaws, and defects of public medical services or the longstanding shortcomings of communities' concepts of medical standards and goals; that it could not dictate drastic and radical changes in the setup of local medical agencies' services, either legally or socially; nor could it ignore the existence of medical facilities and resources in the communities, sorely limited as they are, or fail to utilize such agencies in a program designed to bring to bear all the adequate local medical services upon the burden of sickness in the community.

Such clinic services and usages of clinics as *infringe* upon and exploit the local medical profession, are matters for arbitration between local officials, the management of the clinics and the local professional groups, and are not subject to State interference, the Department contended. It was clear, the Department said, that its primary objective must be the use of existing clinics to the fullest, reasonable extent—especially where clinics are an integral part of the local community's medical services or can be properly made so. Here again, rigid restrictions, if it were practical to impose them, would have alienated a large number of communities and kept the proposed public medical-care plan in the paper stage, the Department maintained.

For the general welfare of the community, the State Medical Society went along with over-all endorsement of the basic policies of the program, but opposed the unrestricted use of clinics. The Society could not expect one State agency, with supervisory responsibility for only a fraction of the expenditures for public medical care, to try to end practices over which it has no control and which had been established during a period of decades in fields of local public service. But the Society had hoped that the Department might enforce certain limitations on the use of clinics under its public medical-care program by withholding State reimbursement where such clinics were misused. However, since the Department and the local welfare commissioners would not go along with such restrictions and the Society recognized that it and the local medical societies had a certain responsibility of their own to educate communities in this matter, the Society could not place itself in the position of blocking the proposed medical-care program on this issue, for the program provided many advantages greatly to be desired.

So, on the basis of this statement of principles, a set of basic policies was designed to

carry out the objectives of the proposed public medical-care program (see Appendix for the statement of basic policies).

When the program was finally formulated, there had been so much frank, honest, and sincere discussion between physicians and welfare commissioners, that they began to talk the same language and held to the same point—provision of adequate medical services to the public-assistance population. For the first time, perhaps, physicians began to understand the problems, factors, and conditions which fashion the welfare commissioner's considerations and judgment, and vice versa. The trust and confidence that began to develop between the two groups, right down the line from the committee members to the whole rank and file of doctors and welfare officials, were evident in the good-natured stories they told about themselves, their own errors and shortcomings. This kind of relationship grew as conferences and meetings were held periodically to evaluate the progress of the medical program as it was adopted by one locality after another following its initial installation in the summer of 1939.

The New York State Medical Society's Subcommittee on Medical Relief worked painstakingly with the Department in guiding the introduction and development of the plans. There were some early difficulties, minor and major, but once plans were introduced into a few communities and good results obtained, they moved along fast. After two years of experience, study of the results, and consideration of the problems stemming from its operation, the Department and the Society pronounce the program a success, are enthusiastic about its future, believe they have solved the riddle of organizing a good local public medical-care program which has within it the elements of a pattern of high-grade public medical care administered through principles and practices that are generally acceptable to the medical profession, and can be adapted by almost any community in America with benefit to the patient, the doctor, and the community.

It is no more perfect than any set of principles can be when translated from paper to practice, when carried out by thousands of persons, and operated in all kinds of communities, against widely varying backgrounds of medical-service conventions and customs. It does not, cannot, eliminate all of the actions of doctors, commissioners, and communities which are not for the best interests of patients or a good medical-care program, but it does discourage many of these actions, does

provide workable machinery to eliminate more of them. It does not eradicate overnight the ignorance of medical-care problems or the injurious monopolies of medical practice or the evils of wholesale clinic treatment or the lack of adequate medical case recording—all of which have become hardened arteries of a system long inured to such practices. Nor has it solved the vital factor of setting fees that please both the doctors and the taxpayers, a problem upon which many medical-care proposals founder before they even get started. It has not as yet educated the minorities in the public welfare field and in the medical profession to a point where they learn to get the facts and consider the whole problem before making noisy complaints and charges. But the program has made such substantial contributions toward alleviating these age-old problems that it has survived all of the dangers they represent to every public medical program. And that is why American physicians are becoming keenly interested in New York's program.

Analysis of two years' experience with the program shows the following: it develops coordinated and efficient use of public and private medical agencies in the community and eliminates waste and duplication; by making it necessary for the local government to choose the most suitable type of medical program and work out all the details, it focuses community attention upon medical needs and services and gives the local medical profession an opportunity to be heard in the council halls of the community; it places the medical operations of the plan in the hands of a medical man and thus places the medical profession in a key position to influence a wider and better understanding of medical objectives, standards, and services; it establishes fiscal and individual medical record-keeping, where such civic and scientific data were inadequate or absent altogether; it reduces the cost of the average medical case or makes available, through elimination of duplicatory and wasteful operations, funds which can be used for needed, additional, medical services; it has given New York State more medical directors or consultants administering medical relief-care programs than exist in all of the rest of the nation—and it does improve the quality and quantity of medical care.

The one recurrent problem, in minor or major degree, in the installation and operation of a plan, is fees. The State Medical Society committee would not approve a fee schedule at the preliminary discussions of the

medical plan, has not approved such a schedule to date, and does not propose to approve one in the future. Its position is that fees vary widely in the more than one hundred communities of New York State (exclusive of New York City, which has its own medical program), and to approve any one schedule of fees might penalize physicians in scores of communities by fixing fees at standards below what they are now receiving, and might likewise impose higher taxpayers' costs upon scores of communities in which the local fees would fall below the requirements of a fixed schedule. The mere approval of any specific table of physicians' payments would place the committee and the Society in the position of advocating, in many communities, higher relative fees than long-established conventions and customs have dictated, and of exposing the local practitioners to invidious comparison with the doctors in hospitals and clinics who donate their services without monetary compensation. Such a position would endanger the local medical profession's relations with the community, would engender dissatisfaction among the hospital and clinic men, and would reflect generally upon the local and State medical societies and the whole profession.

Other factors were considered: the great distances some doctors had to travel to reach patients in rural and sparsely settled areas, in comparison with the doctors in the metropolitan areas; the amount and costs of medicines dispensed on a visit; the obvious fact that no state-wide fee policy could possibly work without adjustments so numerous it would be impractical to devise one that could reconcile all the factors involved.

The Social Welfare Department's position was this: under the law, it is responsible for fixing a schedule of maximum reimbursable charges for services and supplies beyond which the State cannot reimburse the localities, and it is limited by the funds appropriated by the State. However, the local communities, in cooperation with the local medical societies, can fix their own fees, and make any adjustments necessary to secure maximum reimbursement. In other words, the local communities can determine their own rates of payment, just as they determine the kind of medical program they desire. Then again, the locality can pay its physician whatever it wishes, if it is willing to forego State participation on the amount above the reimbursable limit.

Tremendous savings have been made in

hospital case costs. One county reported saving \$16,700 the first year it used the plan; another county was able to reduce its hospital stay of patients 50 per cent. The sponsors are not prepared to say that their program will prove less costly than others. It may, in comparison with some plans; it may be more costly than other programs. Costs depend upon the varying factors of medical services and standards, facilities and resources available, degree of medical and fiscal control, and other factors. But the New York plan so provides for efficient use of existing medical facilities, medical and financial controls, and recording, that it does eliminate waste and duplication and does, in this area, save funds.

Two great features of the plan are stressed by its sponsors. One is the emphasis placed on the quality of care given. The emphasis is not merely confined to the written statement of the objectives of the plan. It is part and parcel of the administrative procedures, and it is an important, continuing assignment delegated to the Chief Medical Officer of the State Department and his staff. Quality of medical care is attained in several ways.

The local welfare commissioner is impressed with the need for high standards of medical care, is given illustrations of the results of inadequate, low-grade, medical services, is shown the high cost of ineffective medical procedures. His community pride is appealed to. It is made clear to him the useful role and great responsibility that are his in the medical plan. He is encouraged to use his local medical society committee to advise him about the type of plan to select and to recommend to him the best medical men in the community for the medical director's post. He is urged to realize the importance of selecting for medical director a man who has standing with the society, the local medical profession, and the community, and the all-important responsibility of selecting a panel of physicians upon the recommendation of the medical society, if such a type of program is chosen. Selection of personnel is preliminary and basic to assurance of high-grade medical care.

Local medical societies are encouraged by the State Medical Society and the Department to work closely with the local commissioner when the plan is being considered for adoption, to see local government officials and to interpret the need for the best possible kind of care, to appear before city councils and local boards of supervisors at public hearings and state and define the local medical profession's recommendations.

When a plan is adopted by a community, the Department works closely with the local welfare department and the medical director to see that it gets off to a sound start, to give whatever guidance is requested, to stay with the plan until it stands on its own, to assist in straightening out any early difficulties that may arise administratively or in the relations between the local welfare department and the local medical society. (The State Medical Society has had to be called in on occasion and, through its patient efforts, difficult differences were straightened out.)

The Chief Medical Officer then comes into the working plan and seeks to test the quality of medical care as well as the quantity, efficiency, and economy with which services are given. Testing the quality of medical care, the sponsors readily admit, is less than an exact science, but there are several sound approaches to the task and these are used. Medical case records are consulted, diagnoses ascertained, kinds and number of treatments and care given are considered, follow-up treatments are evaluated. Cases and treatments are discussed with the medical director of the program, with the panel physicians who treated the cases, with the local medical society's medical relief committee members, with hospital staff members, and others. A complete record of a case is assembled, studied, analyzed, the patient seen if necessary. Thus, to the extent possible, the standard of medical care is evaluated, and this process—part of administrative procedure and regularly reported upon—focuses the attention of those engaged in the work upon quality as well as quantity and efficiency of services.

The second great feature of the medical plan, the sponsors feel, is its educational value, its tendency to promote public interest in health, medicine, and the role of the physician in the community. Placing responsibility upon the local community for selection of the type of medical-care program it is to provide brings the issue to public attention through the necessity for the local government officials to vote upon the question. The whole matter of public medical services is thus brought forward and more often than not reviewed in public meetings, discussions, and in the press. The local medical profession, like other segments of the population, has an opportunity to express its views, to interpret its objectives and objections, to press its recommendations, and to expose fallacious proposals.

More than that, allied and related health

services are likewise publicly reviewed and discussed; public welfare officials, public health officials, private medical agency executives, and other elements of the community participate in the discussion. Since the plan calls for encouragement of the appointment of local medical society committees to advise the welfare commissioner and his medical director, and makes the appointment of a medical director or medical consultant mandatory, the medical profession is given a real part in the program, an official as well as a professional interest, and thus places the profession in an advantageous position.

In addition, bringing together all of the public and private medical interests of the community engenders healthy exchange of viewpoints, promotes understanding of individual responsibilities, functions, and objectives, tends to promote coordination and cooperation, and helps to eradicate much of the misunderstanding and fears that the different groups may have held for each other. To have attended one of the early stormy meetings of the groups that met with the State Department in 1937-1938 and then to attend such cooperative meetings today would lead the observer to believe that some miracle must have occurred or the confreres must have been replaced by others. It was neither a miracle nor a change in the personnel of the committees. It was the achievement of adults who were able to get together on the fundamental principle that human beings in need of medical services should receive good medical care, and they went on from there to modify their special interests to the greater interests of men, women, and children in need of the services they had the power and skill to give.

Such modifications as were made by the welfare commissioners and the medical men were not sacrifice of principles but reasonable subordination of special interests to the greater good and greater claims of the public interest, a truly democratic performance that left the medical profession free to continue its fight for such standards and conventions as it feels must some day be accepted by a better-informed public. The welfare officials maintained their right to administer their programs, and the medical profession gained the right to guide the medical aspects of the programs.

Since the operation of the plan thus far has shown a tendency to increase the fee-basis method, the use of clinics and the use of salaried-practice methods have brought fewer problems than had been expected; and in many instances the number and kind of abuses

frequently charged to these factors consequently declined. However, in the case of one community, it dropped the fee-basis plan and switched over to the salary method.

In instances where the local communities set fees for welfare patients far below the level of fees for private patients, the Department's position is that this is a local decision and it is up to the local medical profession to get the community to understand the value of the physician's services. The Department points out, too, that prior to the founding of medical relief programs in the early depression days, the medical profession bore the full brunt of providing its services to destitute families who could not pay—an unjust burden upon a small fraction of the population. It feels that all of the local communities have come a long way since then, and now the medical profession is being paid for such services, even though, in some communities, the local practitioners feel they are not receiving as much as they should.

From its long experience in dealing with localities and local government, the Department believes in doing everything possible to help spread a better understanding of medical and social needs by practical demonstrations; and that progress and development of medical and social programs cannot be achieved by imposing State government philosophy or regulations, but rather by a patient, cooperative, relationship which will in time become fruitful in encouraging the community to advance through increasing levels of social conscience and thinking.

The sponsors point out that as yet no community has set injuriously low fees, viewed against the background of the community's standards. In the few instances where the local medical profession was belligerent in its opposition to the local fee schedules or in its efforts to have such fees increased, it was possible for the Department and the State Medical Society to help bring about amicable settlements.

The advantages and results of the local medical-care plans have been so numerous that even if the number of problems and the minority of critics were much larger than they are, they would still be outstanding examples of successful partnership of government and private medicine in the important task of providing needed medical services to persons who have no means of providing such care for themselves.

The enthusiasm of the sponsors, and of the new medical directors, the welfare commis-

sioners, and the local medical society committee members, in getting their communities to adopt an effective local medical-care plan augurs well for the success of their new adventure, which holds great promise for the public good. The great human desire to build, to benefit, to do good, is the powerful drive behind this movement, the force that gives it its momentum and keeps it rolling.

This local medical-care program is rapidly changing the whole pattern of public medical care in the social welfare field in the State,

supplanting archaic practices and systems, coordinating local public and private medical facilities into a coherent community program, placing a medical man in charge of the medical aspects of the program, setting up diagnostic and fiscal records, building a whole new approach to public medical care, and establishing new forms of medical service which may influence government-physician relationships and public health movements for decades to come.

APPENDIX

New York State Department of Social Welfare Medical Care Program for Locally Administered Medical Care Plans

Legal Basis

The medical-care plan, both in function and in structure, is governed by two basic sections of the State Social Welfare Law:

(a) "Section 184. *Responsibility for providing medical care.*—The public welfare district shall be responsible for providing necessary medical care for all persons under its care, and for such person(s), otherwise able to maintain themselves, who are unable to secure necessary medical care. The determination as to medical care necessary for any person shall be made with the advice of a physician."

(b) "Section 185. *Place of care.*—Medical care may be given in dispensaries, hospitals, the person's home, or other suitable place."

The essential requirements, scope, and functions of the approved local medical-care plan, together with an account of the installation process, are summarized below.

Requirements for Approval of Plan

The State Department of Social Welfare has established the following requirements as the minimum essential to its approval of a local medical-care plan:

1. *Local medical direction and administration.*—The commissioner of public welfare, with authority and responsibility for providing medical care, shall delegate the direction of the medical aspects of the plan to a licensed physician of his choice. He must establish a central medical unit, properly staffed and equipped to handle or refer all requests, (a) from or in behalf of patients in need of medical care at public expense, and (b) from the physicians, dentists, nurses, pharmacists, clinic and hospital administrators who are authorized to supply such care.

2. *Definition of scope of medical-care plan.*—Written statements shall be prepared to define clearly the policies, procedures, items, and terms (including payments) which govern the respective functions of each participant in the operation of the plan. These itemized statements are to be designed, by mutual agreement, for the use of physicians, dentists, nurses, pharmacists, hospitals, etc. (vendors or providers of medical services or supplies), as well as participating

members of the welfare department staff (medical, social service, and accounting divisions).

3. *Medical and social coordination.*—The plan must provide for: (a) the use of physicians to determine the medical needs of any person applying for medical care; (b) the use of social workers to determine financial eligibility of such person for care at public expense; (c) informing social workers of the medical and social needs of the applicant, and for joint planning between medical and social workers where there is an interdependence between the treatment and social factors in the case; and (d) the application, as rapidly as possible, of one system of providing medical care for all persons receiving public assistance, regardless of category of assistance.

4. *Medical and fiscal record keeping.*—The plan shall provide for the establishment and maintenance of: (a) medical-care records showing the diagnosis and treatment for individual patients; (b) cost records according to type of medical or other professional services or supplies furnished; and (c) an accounting system conforming to the regulations of the State Department of Social Welfare.

5. *Integration with community medical and health resources.*—An accurate and up-to-date inventory shall be established and maintained of all medical and health facilities and services available in the community under federal, State, local, public, or private auspices, so that full and proper use may be made of each in a well-rounded medical-care plan.

Scope of Plan

The scope of an approved medical-care plan may vary as to items of service and forms or manner of distribution of such services.

A. *Items of medical care.*—The plan may provide for all forms of medical care including—regardless of the extent of State participation—many or all of the following:

- Acute illness, home or office
- Ambulance service
- Boarding homes for invalids
- Chronic illness, home, office, etc.
- Clinic care, by referral
- Consultant services

Dental care, including
 Prophylaxis
 Treatment
 Fillings
 Extractions
 Dental surgery
 Dentures
 Drugs, sera, etc.
 Eye examinations
 Eyeglasses and glass eyes
 Fractures
 Hospital care
 Laboratory services
 Major surgery, home or hospital
 Medical services in hospital
 Minor surgery
 Nursing care, including
 Visiting nurse, per visit
 Registered nurse, per day
 Practical nurse, per day
 Home medical aides
 Nursing home care
 Obstetrics; home or hospital
 Physiotherapy
 Pneumonia treatment
 Preventive services, by referral
 Prosthetic or surgical appliances
 Radium treatment
 Sickroom supplies
 Specialist services
 Tuberculosis treatment, home
 Venereal disease treatment
 X-ray diagnosis
 X-ray treatment

It should be recognized that while all of these items of medical care can come within the scope of Section 184 of the Social Welfare Law as a responsibility of the local welfare district, State reimbursement for some expenditures is not available because of specific legal restrictions or exclusions.

B. Types of medical-care plans.—The items of medical care listed above may be provided through a number of patterns. Because of the large number of local variables, each new plan adopted may differ from the others. The following are representative types of plans and indicate certain patterns chosen by particular communities to fit local circumstances and customs:

1. *Free choice, fee-for-service, medical-care plan in a rural county.*—Hospital care provided in county hospital supported jointly by the County and the State Health Department. Medical and surgical services in this hospital given by staff physicians.

2. *Salaried, part-time, restricted panel, medical-care plan in a metropolitan and suburban county (operated on a district basis).*—Hospital care: (1) acute cases, in private and teaching hospitals; (2) chronic and subacute cases, in infirmary attached to County Home. Hospital clinics used for diagnostic and specialist services only. Hospital or clinic staff physicians provide hospital or clinic care.

3. *Combination of salaried, ambulatory care, and free choice, fee-for-domiciliary service, in a medical-care plan in a small city.* Salaried physician in welfare department provides care for ambulatory patients and follows up patients admitted to local hospital.

4. *Salaried city physician and department surgeon providing home, clinic and hospital services in a city, with specialists, emergencies, and hospital services for non-settled cases paid on a fee-for-service basis.*—City physician supervises whole program and in addition makes home visits, provides obstetrical care, and conducts a clinic for ambulatory patients. With exception noted above, department surgeon performs all operations on a referral from city physician.

5. *Free choice, fee-for-service, medical-care plan in a suburban county.*—Home, office, and hospital care provided with free choice by patient of private physician, surgeon, or hospital. Medical consultant supported by strong medical advisory committee to control care and enforce maximum annual payments per patient and per physician.

Installation of Plan

1. *Medical survey.*—A study is made of the present medical policies and procedures of the local welfare district. A list is established of all available medical resources, including those maintained by federal, State, and local public agencies, such as the Public Health Service, State Departments of Health, Education, and Mental Hygiene. To this list are added the medical resources maintained by voluntary agencies and available to recipients of public assistance. An analysis is then made of the medical survey and available medical resources to determine what new or revised policies, procedures, and fees are indicated.

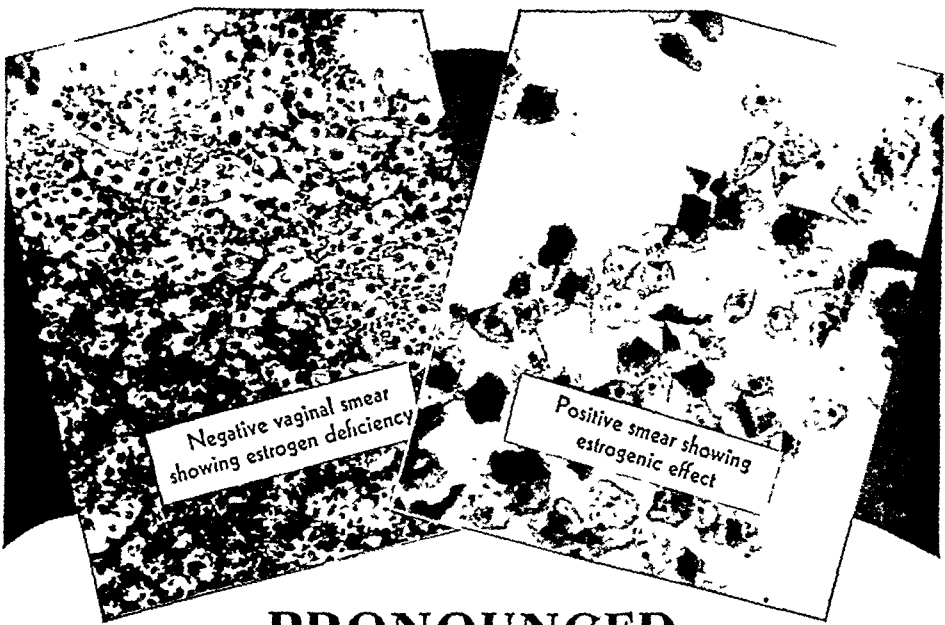
2. In the order acceptable to the local officials, the following steps are taken: (a) sections of the medical plan are written; (b) forms and record cards are worked out; (c) fees for individual medical items are established; (d) advisory committees of participating professional groups review the drafts of sections pertaining to their profession.

3. When the draft of the local plan is completed and acceptable to local welfare officials and participating professional groups, it is submitted to the State Department of Social Welfare for review and approval for installation.

4. The local commissioner of public welfare mimeographs or prints his medical plan in the form of a medical manual and distributes it to the participating professions and vendors of supplies. Copies are filed with the State Department of Social Welfare and the State Department of Audit and Control.

5. The staff, including the Medical Director (who may have been appointed during the period of writing the plan or prior to that), is assigned to the central medical unit of the local welfare department. Beginning on a specified date, medical care is authorized according to the policies, procedures, and fees of the locally established plan. According to the size and needs of the local community, the medical unit staff includes any or all of the following types of personnel: (a) physician, who is the medical director or consultant (required); (b) medical social worker; (c) medical worker, who may be either a nurse or a social worker; (d) pharmacist; (e) clerical and stenographic staff; (f) accounting staff.

6. Continuing relationship with professional groups is maintained through the medical com-



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[Continued from page 912]

mittees advisory to the commissioner of public welfare and the medical director or consultant. These committees have no administrative responsibility and serve in an advisory capacity only.

7. The services of the State Department of Social Welfare's medical staff are available to the local commissioner of public welfare during all the processes of writing and installing a local medical plan.

PHYSICIANS SAY MALNUTRITION IS WIDESPREAD IN THIS COUNTRY

"The evidence at our disposal warrants the conclusion that dietary inadequacies and malnutrition of varying degrees are of frequent occurrence in the United States and that the nutritional status of an appreciable part of the population can be distinctly improved," Norman Jolliffe, M.D., New York; James S. McLester, M.D., Birmingham, Ala., and H. C. Sherman, Ph.D., Sc.D., New York, declare in summarizing a paper on "The Prevalence of Malnutrition," published in *The Journal of the American Medical Association* for March 21. "If optimal nutrition is sought, not mere adequacy, widespread improvement is possible," they add.

In the introduction to their paper they explain that "Recent estimates of the prevalence of malnutrition in the United States have varied so greatly that the Food and Nutrition Board of the National Research Council has assigned to us, as a subcommittee, the task of evaluating existing evidence on this question. Among the reasons for the widely varying estimates is the lack of criteria for the diagnosis of malnutrition. It is therefore necessary before discussion of the evidence that terms be defined.

"Nutritional failure' exists as soon as adequate amounts of an essential nutritional factor or factors fail to reach the 'milieu interne' [desired state].

"Dietary inadequacy' means the failure to ingest an essential nutritional factor or factors in amounts sufficient to meet the existing requirement of the body.

"Nutritional inadequacy' means not only the failure to ingest, i.e., dietary inadequacy, but failure to absorb, to retain, and to utilize an essential nutritional factor or factors in amounts sufficient to meet the existing requirements of the body.

"Malnutrition' is a bodily condition, detectable by any method of examination, caused by a nutritional inadequacy."

In their summary they say that "Malnutrition is accompanied by manifold signs and symptoms, diverse in nature, and to the casual observer their origin and significance is not always apparent.

"Some types of malnutrition are strikingly obvious to every one, some are apparent only to the physician who looks for them, and some are vague and elusive even to the careful observer using the most accurate specialized technics. If the first group alone is counted, the prevalence of malnutrition will be recorded as low, almost negligible. If the second group is counted, it will be recorded as high. If the third group is included, then the rate will be sufficiently high to occasion genuine concern."

THE DISTINGUISHED SERVICE MEDAL

The Distinguished Service Medal of the American Medical Association will be presented for the fifth time at the opening general meeting during the annual session of the association in Atlantic City, June 9. This medal was awarded, for the first time, in 1938 to Dr. Rudolph Matas of New Orleans, in 1939 to Dr. James B. Herrick of Chicago, in 1940 to Dr. Chevalier Jackson of Philadelphia, and last year to Dr. James Ewing of New York. This award has come to be recognized as one of the most distinguished honors conferred by the American Medical Association. The method for selecting the recipient is specifically defined in the by-laws of the association. Any Fellow of the association may submit nominations, which should be sent, together with a record of the scientific services of the nominees, to the chairman of the Committee on Distinguished Service Award, Dr. A. A. Walker, 2250

Highland Avenue, Birmingham, Ala., or to the secretary of the association at 535 North Dearborn Street, Chicago. Of all nominations received by the committee, five are submitted to the board of trustees of the association, from which the board selects three to be submitted to the house of delegates at its first meeting at the time of the annual session. Immediately on submission of the nominations by the board of trustees, the house of delegates, by official vote, selects the recipient of the honor, to whom the Distinguished Service Medal is presented at the opening general meeting on the evening of the following day. An extended list of distinguished physicians nominated for this award will enable the committee, the board of trustees, and the house of delegates, all of whom participate in the selection, to choose for 1942 a recipient of distinction.

—J.A.M.A.



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Medical Preparedness

Concerned over possible war shortage of drugs and medical appliances, The New York Academy of Medicine recently appointed a Subcommittee to study this subject. The report which follows

was approved on March 9, 1942, by the Committee on Public Health Relations of The New York Academy of Medicine. Copies of this report have gone to the authorities in Washington.

War Shortage of Drugs and Medical Appliances

Report of a Subcommittee of the Committee on Public Health Relations of The New York Academy of Medicine

BECAUSE of the war, many drugs and materials used by the medical profession are becoming scarce, or may be unobtainable. This Subcommittee was appointed to ascertain the nature of the shortages, their causes, and their remedies where possible. It has received helpful information from representatives of leading drug manufacturers and distributors, and from several divisions of the government.

Among the several reasons why drugs should be scarce are the following:

1. The supply from many foreign countries is drastically curtailed or completely shut off, either because there is little or no production in the several countries, or because shipping facilities have been unavailable. Of such scarce foreign-produced drugs, belladonna and colchicum are striking examples. In regard to shipping, the Health Supply Section of the War Production Board informs us that it has been granted priorities for drug shipments whenever shipping facilities have become available.

2. Certain basic chemical drug substances are used extensively in the manufacture of war equipment, such as alcohol, phenol, glycerin, nitric acid and nitrates, magnesium, mercury, potassium, and zinc.

Alcohol, for example, is required in the manufacture of ether, insulin, tinctures, and a great many other medicinal substances. It is also essential in the manufacture of smokeless gunpowder. It has been stated that it takes 65 gallons of alcohol for a single 16-inch shell. Molasses and sugar will be used extensively for the manufacture of alcohol and a number of other munitions substances. The government has ordered the distillers of the country to furnish 125 million gallons of alcohol this year. Following a careful survey of its uses of alcohol, the New York Hospital has been able to reduce its alcohol consumption by 50 per cent.

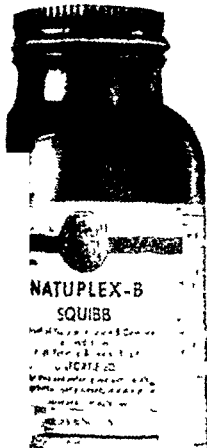
3. The Army and Navy have taken for immediate use and are storing up against possible future needs vast supplies of drugs and appliances, such as quinine, morphine, sulfa drugs, antitoxins, vaccines, and also bandages, gauze, ligatures, sutures, adhesive plaster, hypodermic syringes, surgical instruments, etc. It is reported to us from apparently reliable sources that within a few weeks the Army ordered 100,000 vials of tetanus antitoxin, 40 million quinine tablets, 35 million sulfathiazole tablets, and 10 million sulfapyridine tablets. Of these sulfa drugs, such quantities represent the entire medical requirement of the United

States for two to three months. We are informed that a shortage of liver extract may ensue, one cause being that the Army is feeding large quantities of liver to the troops. We are told that the orders for bandages exceed the present stocks of those in the whole country.

4. The Lend-Lease requirements are heavy and include many materials to be supplied to the whole free world. Just as one illustration of our responsibility, the plants of the only two manufacturers of insulin in Britain have been demolished, and as a consequence the British Empire is forced to call upon us for its entire requirement. Estimates of consumption and actual requirement figures for health supplies include the requirements for the Army, the Navy, and the Marine Corps, the various governmental agencies, the Public Health Service, the Red Cross, the Lend-Lease requirements for Britain, Australia, India, South Africa, China, free France, the Soviet Republic, the Central and South American republics, and other nations receiving defense aid, as well as the requirements for the civilian population of the United States and the requirements for civilian defense. After having determined what is required, there is still necessity for a study of the availability of basic raw materials and intermediates needed to produce the finished substances, and then proper allocation of these.

5. There are priority rulings on materials used in packaging, such as tinplate and lead, which are used in munitions manufacture. There are indications that the use of paper cartons, corrugated paper, and wooden packing cases will be curtailed, largely because these are needed for light-weight lend-lease shipping. Renewals of worn-out manufacturing and packaging machinery and new machines may be unavailable. From Milton H. Luce, Administrator, Health Supply Section, we learn that the Health Supplies Rating Plan has been formulated to establish priorities for steel, copper, rubber, and other substances required by the manufacturers of medical and hospital appliances, such as: anesthesia apparatus, atomizers, clinical thermometers, basal metabolism, electrocardiogram and x-ray machines, x-ray films, hypodermic syringes and needles, surgical instruments, hospital equipment (beds, stretchers, sterilizers, operating tables), hot water and enema bags, rubber nipples, rubber tubing, laboratory equipment, and many other forms of apparatus. Up to the present the Rating Plan has not included pharmaceuticals.

(Continued on page 918)



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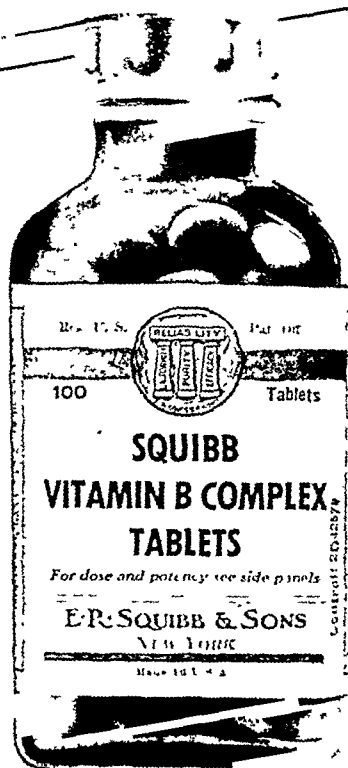
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[Continued from page 916]

6. The problem of transportation is becoming critical. The railroads have been allocated a supply of new freight cars but must meet greatly increased demands. Cross-country trucks and trucks for local deliveries may be withdrawn at any time. A manufacturer or wholesaler with a supply of drugs or surgical and hospital supplies on hand may be unable to deliver them to the retailer, so it will become more and more difficult to make available for the physician even those drugs and appliances of which there is no essential shortage. One wholesaler has informed us that his firm is urging retailers to stock up for three or four months ahead, but in some instances this has resulted in a panic-stricken pharmacist ordering ten pounds of a drug of which one pound a year would meet his needs.

These will suffice to indicate the wide variety of causes for inadequacy in the supply of drugs and medical appliances.

The U. S. Pharmacopoeia is alive to the situation and is kept well informed by departments of the government: (1) It has relaxed the storage requirements and moisture content of ergot, in order to permit shipments of Spanish ergot, because in Spain there are now no facilities for packaging the ergot according to the previous strict U. S. P. requirements. (2) It has made official a substitute for codliver oil through the dilution of high vitamin oils of the haliver type with low vitamin codliver oils, or with vegetable oils such as corn oil. The price of codliver oil has advanced greatly, as the different countries are holding their own product for their own use. Germany takes the entire Norwegian output. The Iceland yield, which is of high quality, is divided equally between Britain and the United States. There may soon be a scarcity of the concentrated liver oils obtained substantially from the halibut, the percomorph, and the shark. There is a decided shortage of drop-dosage A and D oils for infants, as the only source of these oils heretofore has been the tuna fish caught off the coast of Japan. (3) It has allowed the substitution of the oils of peach and apricot kernels for sweet oil of almonds, of Indian squill for Mediterranean squill. (4) It has permitted the omission of oil of lavender, as in aromatic spirit of ammonia and liquid green soap, of oil of rose and rose-water, as in cold cream.

It is well to know that the government is alert and busy regarding these matters, which are under the direction of the Health Supply Section, War Production Board, and other divisions of the government, according to the nature of the problem. The Health Supply Section is conducting a comprehensive survey of scarce drugs, medicinal chemicals, surgical dressings and equipment, and other health appliances, and is studying the needs of the civilian population. It sends us the information that the Federal Government has accumulated stockpiles of various important agents, such as ergot, opium, and quinine, sufficient to meet the U. S. civilian and military requirements for several years but inadequate to cover the Lend-Lease needs. In addition, the industry has in its possession about one year's supply of these materials.

The program undertaken a year ago by the Health Supplies Branch, the predecessor of the present Health Supply Section, War Production Board, to foster expansion of production of such important substances as sulfonamides and vitamins, is believed adequate to meet the demands of the Army, Navy, and other defense forces, the Red Cross, the Lend-Lease requests, etc., without undue dislocation of civilian supplies. In some materials, notably vitamin A and agar-agar, the supplies are inadequate to meet the heavy demand so their use has been restricted to essential purposes.

Recommendations

Our suggestions relate to: (1) those having to do with physicians and hospital practices as they may affect prescriptions and demands for drugs and supplies; and (2) those having to do with improving the supplies.

Under the first heading we ask:

1. That hospitals and surgeons use the utmost economy in the employment of operating room and other materials and apparatus.

2. That prescriptions not be written for preparations containing alcohol, glycerin, phenol, sugar, potassium salts, and other substances to be listed in a proper publication. This involves substitution of tablets and capsules for elixirs, tinctures, fluid extracts, syrups, and preparations containing glycerin, such as rhubarb and soda mixture; substitution of sodium salts for those of potassium.

3. That physicians limit the employment of a scarce drug to its more important uses. For example, agar-agar should be reserved for bacteriological media, and not used as a bulk-producing laxative; belladonna and atropine and their derivatives should be prescribed in very limited amounts and only when absolutely necessary.

4. That prescriptions be written for small amounts rather than for quantities for extended use.

5. That there should be published a list of all drugs commonly used, and their availability. For this, valuable suggestions can be obtained from a 1941 publication of the Therapeutic Requirements Committee of the Medical Research Council of Great Britain, entitled, "Economy in the Use of Drugs in Wartime," in which all commonly used drugs are classified A, B, and C. It is a guide for physicians. Under A are those that may be prescribed because they are regarded as *essential or readily available*, such as acacia, ascorbic acid, aspirin, salicylic acid, cocaine, codeine, digitalis, theobromine. Under B are those *essential for certain purposes but widely used for other purposes* for which they are not essential. Bismuth, for example, should be limited in its employment to syphilis and certain tropical diseases, and its use should be avoided in gastrointestinal disorders, for which other substances are available. Under C are the drugs which are *not essential and do not justify either importation or manufacture*—for example, aconite, buchu, glycerophosphates, oral liver preparations, injectable iron preparations, psyllium seed, potassium salts. A comprehensive list of the more familiar drugs,

[Continued on page 920]

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[Continued from page 918]

classified in some such manner, with suggestions for substitutes for the scarcer drugs, might be invaluable. It should be in the hands of every physician. We are informed that such a list is to be issued.

In regard to the improvement of civilian supplies we recommend:

1. That every step, including subsidizing, be taken to favor the production in this country of certain vegetable drugs hitherto imported. It is possible that eventually we may be able to produce in this country agar, aspidium, belladonna, colchicum, digitalis, ergot, hyoscyamus, and certain volatile oils, such as peppermint, needed for its menthol, and others used for their flavor and aroma. Methods of planting, care of the plants, collection, drying, and storing are being studied. Growths of digitalis and ergot are produced successfully now and can be extended. The belladonna and agar so far produced in the United States have been of inferior quality, but plans have been made for their production on an extensive scale.

2. That the Army and Navy be asked to avoid clearing out existing drug and health supplies abruptly unless this is a real necessity. They should make more gradual their accumulations for storage against possible needs a year or more hence, so as not to curtail unnecessarily the supplies needed now by the civilian popula-

tion. In cooperation with the Red Cross and the OCD they should set up a mechanism whereby in the event of a civilian catastrophe, such as an air raid, medical stores would be made immediately available.

3. That official drugs and their preparations, together with certain newer chemical drugs, be given priority over unofficial and proprietary preparations. A precedent for this has been established. Long before the war, the American Hospital Association sanctioned, and a number of important hospitals put into force, an order that in prescriptions for use in the wards medications should be limited to official medicines as listed in the U. S. P. and the N. F., together with certain selected newer remedies approved by the Council on Pharmacy and Chemistry of the American Medical Association. It is believed that these will meet all the requirements of the best medical practice.

4. That the proper government department be requested to allocate adequate distribution facilities for drugs and medical supplies.

Respectfully submitted:

WALTER A. BASTEDO, *Chairman*
BEECKMAN J. DELATOUR
HUBERT S. HOWE
SHEPARD KRECH
THOMAS T. MACKIE
E. H. L. CORWIN, *Secretary*

March 6, 1942

New Federal Questionnaire

AN OFFICIAL enrollment form and a new questionnaire are being mailed to every licensed physician, dentist, and veterinarian. There are 186,000 licensed physicians, 71,000 dentists, and 12,000 veterinarians.

"The new questionnaires supplement those circulated as early as 1940 by the professions in order to make inventory of those available for military service," Paul V. McNutt, Federal Security Administrator, has announced. "They also supplement information previously requested by asking about experiences in foreign countries, the ability to speak and understand foreign languages, by asking about hobbies which may be of value, such as special knowledge of photography and cryptanalysis."

As part of the man power program it is "highly essential," Mr. McNutt said, that every physician, dentist, and veterinarian return the enrollment form at once. Mr. McNutt said that any physician or dentist who does not receive one by May 10 will know his name is not on record and should write for the form to the National Roster of Scientific and Specialized Personnel, Washington.

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Postgraduate Medical Education

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The Treatment of Habitual Abortion.

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Retained Placenta.

Karl Miller Wilson, M.D., professor of obstetrics and gynecology, University of Rochester School of Medicine and Dentistry, Rochester, New York.

Blood Concentration: Determination by Hematocrit and Falling Drop Method.

Robert K. Brewer, M.D., professor of chemistry, Syracuse University College of Medicine.

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EFFECT OF THE WAR ON CONVENTIONS

What effect is this war situation having on an American institution—the convention? In a matter so necessary to medical organizations, it is interesting to note what has taken place thus far in this business of holding conventions and to speculate on what may occur if the war continues for any great length of time.

The February issue of *World Convention Dates* has pointed out that of 2,688 conventions reporting during December and January—only 55 were cancelled. On the other hand, there were 83 more conventions scheduled than in the same period in 1941. Yet other groups have deferred making plans at their usual time and appear to be awaiting developments.

Several associations have moved the location of the annual meeting from coastal cities to places inland or in the Central States.

Generally those cancelling meetings are rather unimportant, such as The Young Buddhists League and the American-Japanese Conference. Then, too, with the curtailment of production and sales of many commodities it may be expected that many business associations will have little need for business meetings.

A neutral survey of recent conventions disclosed, however, that attendances were the largest on record. So it appears that any change in the convention picture has been in the improvement column.

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TRAVEL MEDICINE

How Travel Benefits a Nation at War

The effect of travel upon the economic life of the nation is outlined in a recent issue of *The Travel Agent* in an article by Don Thomas, Managing Director of the All-Year Club of Southern California.

In normal times, declares the article, recreational travel performs three basic economic functions:

1. *It maintains retail trade levels* in the thousands of resort areas throughout the nation and along the feeder routes to these places.

2. *It maintains capital investment values like real estate throughout the nation.* Thirty billions invested in capital structures service recreational travel. Real estate values are increased in any areas to which, or through which, recreational travel flows.

3. *It produces taxes supplementing regular taxes.* It makes for a more equitable distribution of the entire tax load. In Southern California alone, recreational travel provides 19 millions annually in taxes. If these taxes were not paid by it, agriculture there would be saddled with an additional tax burden in like amount or suffer curtailment in government service.

In this war era, however, recreational travel fulfills four additional economic tasks:

1. The Congress is appropriating vast sums of money for war production. This money comes from the pockets of all the people throughout the entire country, but the

money is being spent in relatively few isolated areas. In these areas purchasing power is piling up. *Recreational travel has the ability to spread widely back over the nation* most of the taxes of all the citizens spent for industrial war production in a few industrial areas.

2. *It can bring purchasing power to those areas partially impoverished* by (a) curtailment in the production of consumer goods or (b) other economic dislocations arising out of the war.

3. Today wages are going up, so is farm income, yet the government continues to curtail items which people can buy. If they purchase recreational travel they will be making an anti-inflationary move because it lessens the pressure on the demand for consumer goods above normal needs.

4. Today, transportation and other phases of recreational travel are heavily taxed, thus, if people purchase recreational travel the Government has one of its very best opportunities to get a high tax return from consumer spending.

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Woman's Auxiliary

To the Medical Society of the State of New York

LAST CALL for reservations for the Twentieth Annual Convention of the Woman's Auxiliary to the American Medical Association, which will be held at Haddon Hall, Atlantic City, New Jersey, June 8-12.

Atlantic City extends a hearty welcome to you.

County News

Albany. At a recent meeting Dr. Basilia Lipetz addressed the auxiliary on "Mental Hygiene in War." Mrs. Alfred L. Madden, Mrs. Albert Vander Veer, II, Mrs. William J. Fitzgerald, Mrs. John B. Horner, Mrs. Arthur Holding, Mrs. James Bucci, Mrs. William Feltman, and Mrs. Walter Reynolds attended the State Convention in New York.

Broome. Auxiliary members are addressing one another by their first names—"Ann," your state publicity chairman, was delighted to receive such a friendly greeting.

Cattaraugus. The executive board met at the home of the president, Mrs. E. C. Moore, in Olean. A delicious luncheon was served by the hostess. The April meeting will be held in Gowanda. The main feature will be a tour through the State Institution, conducted by Dr. Paul J. Tomlinson. The board also made plans for a dinner to be given in honor of the husbands of the members. On this occasion, Dr. Norman Peale, pastor of the Marble Collegiate Church in New York City, author, lecturer, and technical director of the moving picture, "One Foot in Heaven," will be the guest speaker.

Columbia. The April luncheon meeting was held at the General Worth Hotel. Mrs. Alfred Madden of Albany, state chairman of legislation, was the guest speaker. Mrs. Madden urged the auxiliary members to keep an active eye on medical legislation and emphasized the fact that any legislative activity undertaken by the Auxiliary is first submitted to the legislation chairman of the Medical Society of the county of which the auxiliary is a part. In a graphic manner and with many humorous touches, Mrs. Madden outlined the procedure of the introduction of bills and made a number of amusing references to the "log rolling" that frequently prevails.

Erie. The members of the auxiliary have given tirelessly of their time and energy to aid in war work. The annual Wistaria Ball was held at the Hotel Statler, April 11. Everyone who attended the Convention at Buffalo can picture the beautifully decorated ballroom.

Essex. The meetings are held twice a year in Essex County. The members stand in readiness to do their part in any emergency which might arise.

Jefferson. Dr. Eugene Bogardus of the Onondaga County Tuberculosis Sanatorium was guest speaker at a meeting and dinner held at the Jefferson County Sanatorium.

Kings. The programs presented are most interesting. The following is the spring and Easter one: "What Is a Mobile Canteen?" by

Mrs. Edward Grobert, cochairman of public relations of the American Red Cross; "Organized Medicine Looks at the Social Security Act," by Mrs. Mortimer Kopp; and a book review by Mrs. Earle F. Whitaker.

Nassau. The auxiliary's annual meeting will be held, Tuesday, May 26, at the Nassau Hospital Auditorium, at 8:45 p.m.

Niagara. Erie and Niagara county medical societies and auxiliaries held a joint meeting at the Hotel Statler, Buffalo, on April 13. Dr. W. W. Bauer of Chicago, director of the American Medical Association Bureau of Health and Public Instruction, was the speaker. The county auxiliary assisted in the registration for volunteers for defense.

Onondaga. Mrs. Mortimer G. Browne opened her home for the April meeting. Mrs. Ellery G. Allen, chairman of legislation, was in charge of the program. Assemblyman Frank J. Costello spoke on "Civics." Plans were made for a dinner in the ballroom of the Hotel Syracuse, to honor the guest speaker, Dr. W. W. Bauer of Chicago, director of the American Medical Association Bureau of Health and Public Instruction. The members of the executive board, eight delegates, and eight alternates will attend the state convention.

Orange. On April 2, a meeting was held at the home of Mrs. Harry F. Pohlmann. At this meeting arrangements were completed for the state convention to be held April 27-30, at the Waldorf-Astoria. Tuesday, May 19, was chosen as the date for the annual health forum which is sponsored by the auxiliary and held at the Middletown State Hospital. Dr. Percival H. Faivre, who is connected with the State Hospital in Middletown, spoke to the women on present trends in the treatment of the psychiatric patient. Mrs. W. W. Davis and Mrs. P. H. Faivre presided at the tea table during the social hour which followed.

Queens. Two thousand hours of production have been completed by the members of the auxiliary during the month of March. Two hundred and fifty books and magazines have been collected for service men. At the next meeting cigarettes and chocolates will be collected. Dr. Grace McLean Abbate, consultant for the Child Guidance Bureau of the Board of Education in New York City, gave a survey of the work done by this bureau. On May 19, a luncheon and bridge are planned by Mrs. Mildred Pollock. This party will be held at La Guardia Field. Queens County Auxiliary has its own Red Cross unit, and is sponsoring first-aid classes.

Schenectady. The newspaper accounts show that the two-day nutrition institute was a big success. The high light of the first session was a discussion on "Nutrition and Defense." "A Study of Victory Gardens" was another feature. Expert advice was given on preserving foods.

Warren. Warren, Washington, and Saratoga

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Editorial

Increasing Nurse Shortage

The problems of the doctor, the nurse, and the hospital are all closely interwoven in the community mind. To solve a problem of the one without the aid and cooperation of the other two factors is obviously impossible. Today, the call of the armed forces upon our normally balanced supply of doctors and nurses is producing imbalance in communities. How, can, and will we meet our obligations in the care of the sick and still supply adequately balanced service at home and to the armed forces?

For the medical needs of the Army a Procurement and Assignment Service has been set up and should adjust the needs for physicians. To date, the Navy has had little difficulty in getting personnel.

Nursing is causing us the greatest concern. According to the Army reports, they have 9,000 on duty, and need 10,000 more by July 1, 1942. The Navy has about 2,000 on duty and needs about 750 more by July 1, 1942. It is estimated that these needs of the Army and Navy will be doubled in 1943, with further increases in 1944. In addition to the above, Public Health will require 3,000 or more additional nurses.

There is already a nurse shortage of approximately 17,000 in hospitals. The students graduated from schools of nursing every year in the U. S. A. are approximately 30,000. If these were all eligible and unmarried, they might almost meet the need of the armed forces and the hos-

pitals. However, this is not feasible or possible. Many cannot pass muster physically, many will marry, and others do not want military service.

Adding students to our schools or setting up new schools, or even shortening the course, offers no immediate relief to our shortage. Many schools have added extra students during the last year. Many more can expand by a small percentage with financial aid. This may help the hospitals to a small degree but is in no way to be considered as even a partial solution of the impending total shortage of nursing personnel.

In New York State there are about 56,000 registered nurses in active practice. Of these, 30 per cent are in institutional service, i.e., regularly employed in hospital service. Another 6 per cent serve as technicians in anesthesia, x-ray, laboratory, and similar services. About 8 per cent are employed in Public Health or industrial work. The remainder are on our various nursing and commercial registries as special-duty nurses. This latter division is our largest single group of nursing personnel available to be called upon to meet the shortage for both military and civilian needs. Even though a considerable number are unsuitable for institutional service, they still can render good home care service and relieve younger nurses for war duty.

The use of special-duty nursing in most of our institutions and in the home can be

[Continued from page 924]

counties gathered together to hear Mrs. George B. Adams, state President. Mrs. Adams addressed the group on the theme "Auxiliary Work in the State During War Times." Forty-four members attended this meeting.

Washington. Mrs. George B. Adams was the speaker and guest of honor at the spring luncheon held at the Queensbury Hotel, Glens Falls. Mrs. Irwin Decker, vice-president, presided in the absence of Mrs. Creevey. The May 19 meeting will be held at the home of Mrs. M. A. Rogers at Greenwich.

Fulton, Montgomery, and our new county, Livingston, have been doing their bit. We appreciate their work and cooperation.

The following poem was written by Mrs. (I. V.) Eudora R. Decker, Salem, New York. (Mrs. Decker is from Washington County.)

IS IT WORTH IT?

Is it worth it,
When there's so much stress and strife?
Is it worth it,
That for every doctor's wife,

Comes the clarion call to be,
Helper of humanity,
Grouped, and individually?

Is it worth it?

Is it worth it,
When there's so much else to do?
Is it worth it,
When the members are but few?
Should we ever hesitate,
Or consider, and debate,
Whether it will compensate?

Is it worth it?

Is it worth it,
When we stop and think that we
Can accomplish
through our own Auxiliary
Aid for doctors everywhere,
Thus their burdens come to share,
Proving that we really care?

Yes, It's worth it!

—Eudora R. Decker

DENTIST GOES TO PATIENT

Late in 1940, the Division of Maternity, Infancy, and Child Hygiene of the New York State Department of Health inaugurated a dental trailer service to provide dental health education and facilities for the correction of dental defects in preschool children in upstate areas which were without dental personnel.

During 1941, the first full year in which the trailer has been in operation, dental clinics were conducted by the senior dentist in charge in sixteen townships of five counties. Completely fitted with the most modern dental equipment, the trailer has functioned in the following places: Hamilton County—Long Lake; Chautauqua County—Ripley, Ashville, Bemus Point; Livingston County—York, Leicester, Groveland, Springwater, Ossian; Tompkins County—Ludlowville, Dryden, Newfield, Slatersville Springs; Ulster County—East Kingston, Port Ewen, Phoenicia.

In the course of the clinics, 296 children made 1,682 visits to the trailer and 2,705 dental operations were performed, including 207 extractions, 1,684 fillings, 286 x-rays, 53 cement bases; 160

anesthesias, 16 temporary dressings, and 299 silver-nitrate treatments. Approximately 90 per cent of the children attended the clinics until the necessary work had been completed.

The dental service is rapidly becoming an important feature of the established antepartum clinics and child health consultations. The main objectives of this program are education of the laity and professional groups, and provision of dental care for expectant mothers and children of preschool age who cannot obtain such care for themselves.

The educational program for nonprofessional groups is carried out by lectures to organizations such as parent-teacher associations, mothers' clubs, service clubs, school groups, and 4-H clubs. The lectures are supplemented by moving pictures, models, and charts. Individual health talks are given to expectant mothers and to parents or guardians of preschool children who are examined by the dental hygienists. Professional education includes refresher courses in children's dentistry and institutes for public health nurses.

—Health News

ANALYSIS

This happened some time ago, and in another city, so it's no use trying to fill in names. Seems that two famous psychiatrists had come to town for a conference of physicians and were staying at the home of a doctor whom they had known in medical-school days. One of them was having a cocktail with his hostess when the other tottered in with the announcement that he had a terrible headache and would like to lie down before dinner. After he had gone upstairs, the other psychiatrist said, confidentially, "Don't worry about him. He's always like this when he's been

showing off. You see, he made himself conspicuous at the meeting today, and his guilt reaction has taken the form of a headache." The hostess nevertheless went upstairs and peeked into the darkened room of the ailing psychiatrist to ask if he needed aspirin or a cold cloth. "No, no, I'm all right," he said with a brave smile. "You go down and talk to him. He's so terribly in need of wholesome diversion. Though I must say," he added, "the poor chap's been acting more normal lately than I've seen him in years."

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mode of economic thinking. Our economy, because of this total war, is or should be dedicated to the production of an abrupt fall in the standard of living. This fact has been played down, by-passed, hinted at obliquely. As a result, it is our belief that many medical men in considering the question of the maintenance of their dependents, should they be commissioned for service, have thought in terms of the now nonexistent standard of civilian living. Dependents will not live from now on at the old level; they will do without many things; they will make many old things do or go without. Furthermore, they will do this cheerfully; they are Americans.

We urge upon the readers of these pages

some realistic thinking along these lines. There is a job to do. It must be done quickly. We feel that it will be done quickly, that medical men will do it, as they have always done it when their thinking on the subject of their prior obligations has become clarified.

They do not need to be told that already the United States Navy has lost about 5,700 men, including 2,400 killed, 2,300 missing, and 1,000 wounded—said to be more than the total naval casualties hitherto in the history of the Nation—to have impressed upon them the serious need for services such as only they can render. No physician worth the name takes his obligations lightly—either national, professional, or personal.

The Doctors' Orchestra

This JOURNAL conveys to the leader, Fritz Mahler, and to the several members of the Doctors' Orchestra for their exceptionally fine concert at the Annual Banquet on Tuesday evening, April 28, the appreciation of the Medical Society of the State of New York and of its distinguished guests.

The amazement expressed by Major General Lewis B. Hershey, in his address, that so many physicians could be found who would all consent to play the same piece of music at the same time is as nothing compared to ours that they should have done so with the finished skill and sympathetic interpretation which they exhibited. This is a very sincere tribute to the leadership of Fritz Mahler; for the discipline of his sections was extraordinary and especially noticeable in the many unison passages for the horns, cellos, and violins. That some timidity characterized the performance of his woodwind section is not really remarkable. It is to be found at times in the best of orchestras, in which, regrettably, may be noticed these "ill wood-winds that nobody blows good."

The "Overture" to *Euryanthe* of von Weber was performed in a workmanlike

manner and served admirably, without noticeable emotional content, as a warm-up.

The *Unfinished Symphony* of Shubert was admirably performed. The difficult unison passages for cellos and brasses were well handled, with splendid body of tone and authority of execution. There was no compromise in the matter of tonality, frequently the chief fault of non-professional as well as professional symphonic groups. Attacks were precise and incisive, and the antiphonal work of the various choirs left little to be desired. Especially commendable in this selection was the work of the first violin section and the violas. Tone production was smooth and of good quality, well sustained throughout. This writer has rarely listened with more real enjoyment and esthetic satisfaction to a performance of this difficult and gracious symphony.

The "Marche Slave" of Tchaikowsky opened well. Cues were well integrated and a noticeable and commendable brilliance of tone characterized the performance, with noteworthy work by the brasses in ensemble but which wavered in the solo passages. Orchestral discipline was not so noticeable in this final work.

shown to be very largely a luxury service, especially after the first few days of acute illness. It may easily become a luxury to the patient and a waste of nursing personnel, because the medical and nursing needs of the patient cease to be great enough to require the full time of one to three graduate trained nurses devoted entirely to a single individual's care. Of course, it is nice for the patient, convenient for the doctor, and many patients accept the service whether they or the family can afford it or not.

There are several ways in which we as physicians, the hospitals, and communities can anticipate the possible declaration of special-duty nursing as a luxury by the government and even adjust ourselves to such a change before it happens.

Physicians in their offices frequently use graduate nurses as secretaries and for other duties in which their nursing training is partially or wholly wasted. Institutions do likewise in their admitting and other services.

We might urge that married nurses, who constitute about 40 per cent of the entire graduate group, be used in the Army, especially for duty in the camps in the U. S. A.

In institutions, we could give the pa-

tient more bedside nursing if our doctors doing research or prescribing complicated technics would cooperate, through simplification of procedures, and curtail some of the less necessary research until after the duration of the war.

Physicians should use graduate nurses in home nursing, and, where technical skill is called for and a practical nurse would not suffice, they should advise their patients to conserve on nursing if practical so as to free as large a group for war service as possible.

There is no need to reduce the standards of nursing education or the requirements of bedside patient care if we will but streamline the service to necessities and trim away some of the nonessentials we have built up in the time of plenty—now past for the present at least.

Only through the utmost cooperation among the medical, hospital, and nursing groups of the community can we stretch our existing supply of nurses and solve this problem as it should be solved; viz., by those who know the needs locally, not by some over-all agency. Talk won't do it. Let's have some action, both local and state. Our state organizations should join together and begin a militant campaign at once.

Dependents

The impending necessity for many physicians to enter the armed services raises the question of the maintenance of dependents. Numbers of medical men do not view the pay and allowances of army service in the lower officer grades as adequate to maintain themselves and to provide support for those dependent upon them. This, of course, is a matter which varies in each individual case, and must be considered apart from other factors which might becloud the issue.

Most of the medical men under and over forty years of age have lived in this country in an economy which has flagrantly boasted of a high standard of living. It has been drummed into them that this was "The American Way of Life."

Particularly during the last twelve years, the ingenuity of the leaders of political and economic thought has been exercised in heroic efforts to raise this standard. It is therefore not at all surprising that at the present time when many physicians are revolving in their minds the problems related to the maintenance of their dependents that they think in the terms in which they have been educated to think by every means at hand—the press, the radio, the forum, the pump priming, the expanded public works program, and the "social gains."

It has not yet penetrated to the consciousness of many people that the total war in which we presently find ourselves engaged requires a radical reversal in our

SOCIAL ASPECT OF HEART DISEASE IN INDUSTRY

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THE financial liability incurred in the employment of an individual with a heart condition is important to institutions maintaining a disability payment and insurance plan. No satisfactory statistical data are available for determining the work expectancy in this condition, as compared with the data upon which life expectancy in heart condition is computed by life insurance companies. During the past nineteen years, an accurate medical and financial record has been kept by the New York Times Medical Department* on 564 individuals who have heart disease.

From the data accumulated in these files, the material relating to all individuals having a basic heart history or lesion on record, as well as to those that have acquired heart symptoms during their employment, has been selected for analysis and comparison with data on individuals of other groups as controls.

The objects of the present study are:

1. To determine what assistance we as physicians can give to the prospective employee who has potential or real heart disease, in choosing a type of work suitable for his physical future.

2. To learn how soon these employees are rendered unfit for work by heart disease, if they can be employed only at work they are physically incapable of doing over the normal span of working years.

3. To set up a system whereby all can be gainfully employed, irrespective of physical condition, in types of work least harmful to any existing heart lesions.

4. To obtain reliable figures on our experience, so that employers of large groups can make proper financial allowance for disability due to heart disease, particularly in institutions where physical examinations are not required or where workers must be accepted under labor codes, irrespective of the physician's physical findings and advice.

5. To determine whether it would be best, for serving all concerned, to coordinate our efforts with those of the individual, the employer, the employees' self-chosen protective

organization, or of a combination of these units.

A previous study of a 12-year period¹ revealed that 75 per cent of all time loss was due to illness, as compared with 25 per cent due to accidents. A total of 8 per cent of this disability was due to heart disease.

Many persons who were known, either by history or physical signs, to have some predisposition to cardiac conditions were employed and given class D or C ratings. All normal persons were rated as class A or B.

Among 919 of our workers who were employed before medical examinations were required, 200 have reported to the Medical Department, or have presented medical certificates from their family physicians, with diagnoses of cardiovascular disease between 1921 and 1940. In 1939 the average length of employment of the workers was 22 years and their average age 62 years. Of these 200 persons who are known to have had symptoms of heart disease, 67, or 34 per cent, have lost no time up to this writing because of those symptoms. The remaining 133, or 66 per cent, have lost a total of 16,597 days because of cardiac or some directly related illness. Computed on the basis of an average salary of \$7.00 a day, this amounts to a loss of \$116,179, or an average of \$873.52 for each cardiac losing time. This means a liability of \$580.89 for each cardiac irrespective of lost time, and \$126.41 for each employee hired without examination over a period of 19 years.

At the present writing, these 200 employees are distributed as follows: 99, or 50 per cent, are still employed with us and are working; 39, or 19 per cent, are not working (32 having been pensioned because of age or disability, and 7 being no longer employed with us for various individual reasons other than health); 12, or 6 per cent, have died from known heart disease while 8, or 4 per cent, have died from other diseases and 42, or 21 per cent, of unknown causes, making a total of 62 deaths.

During the same 19-year period, we have examined 2,719 applicants for employment, classified as follows:

Group A: 619 having normal history and physical findings.

Group B: 1,454 having normal history, but minor physical defects easily correctable—i.e., diseased tonsils, dental caries, etc.

* The Medical Department was organized in 1921 after the establishment of a plan of disability payments for the employees of the New York Times. A physical examination of applicants for employment was adopted, and a history file on all new employees, from the date of their employment, has been kept up to date. Medical histories of previously employed members of the organization have been kept from the date of their first reported illness after 1921 up to the present time.

Nevertheless the body of tone was admirable, and the fire and spirit with which it was played more than made up for the few technical faults.

Medicine and music are inseparable. The physicians of the State of New York should be proud to have such an organization as the Doctors' Orchestra to rep-

resent them. We feel certain that the spirit of Borodin, of Bach, and the incomparable Peter Ilyitch will bless the devoted labors of this organization. This JOURNAL solicits in behalf of this fine orchestra the continuing interest and appreciation of the medical profession in the State of New York.

Recent Legislative Enactments

The 1942 Legislature, which adjourned on Friday, April 24, enacted several very important measures which will be of particular benefit to the public and to the medical profession, and at the same time it maintained a record of years' standing in defeating a number of attempts to lower the quality of medical care to which the State is accustomed.

Among the bills that have been left for the Governor's approval is an amendment to the Medical Practice Act affecting the Grievance Committee. The Committee, composed of nine physicians and one osteopath, has fully realized the hopes of the framers of the Act in the fifteen years since its passage, but later amendments to the law have unexpectedly extended its responsibilities so that it has become necessary to modify certain of the law's provisions. For final action on any case the law now requires that each of the ten members be present and voting at the time.

Since these are all busy men, it has been found difficult to hold meetings where all ten can be present; hence an amendment was prepared last year at the suggestion of the members of the Grievance Committee and endorsed by the Regents, which provided that final action might be taken when two-thirds of the members are present. To offset any remote possibility of unfairness, the bill which passed the Legislature this year pro-

vides that the evidence in each case shall be taken initially by a subcommittee of three who shall agree unanimously upon the report submitted to the entire Committee.

Two other important bills that have been submitted to the Governor for his approval are an outcome of the investigation made by the Commission appointed by the Governor to inquire into irregular practices in Brooklyn. They amend the Education Law and the Penal Law so as to give law enforcement officers a better opportunity to discover and convict abortionists.

The principal threat to the educational standards of medical care, which protect the public, lay in the chiropractic bill, which was effectively defeated.

It is with considerable satisfaction that we report the foregoing facts. In such times as these, increasing demands upon the medical profession and the turbulence associated with profound economic reversals warrant a more than usual awareness and careful watchfulness, especially with regard to the maintenance of the educational standards of the medical profession of the State. It is to be hoped that the inevitable drop in the standard of living consequent upon the prosecution of the war will not affect the high standards of thinking which have always been the rock of security upon which the medical profession has built.

TABLE 2—CARDIAC SURVEY OF PRE-EXAMINED EMPLOYEES, 1921-1939

No of Employ- ees According to Medical Rating	Total Years of Employment	No of Employees Who Have Lost No Time	Lost Time	Total Time Lost (Days)	No Working	No of Employees Removed	Died	Cost per Man on Average- Salary Basis (\$7.00 a Day)
A rating 19	238, av. 12 1/2 yrs per person	(74%) 14	(26%) 5	106	(69%) 13	(26%) 5	(5%) 1	\$ 39.05
B rating 114	1,133, av. 10 yrs. per person	(63%) 72	(37%) 42	3,911	(59%) 68	(24%) 27	(17%) 19	\$240.10
C rating 145	1,302, av. 9 yrs per person	(86%) 123	(14%) 22	1,684	(63%) 92	(27%) 38 { P-1 } { R-37 }	(10%) 15	\$ 81.29
D rating 86	315, av. 3 1/2 yrs. per person	(98%) 84	(2%) 2	900	(27%) 23	(67%) 58*	(6%) 5	\$ 73.25
* Removed Never employed Failed to complete examination		14 43 1				{ P = Pensioned } { R = Removed }		

rule, we had willing cooperation from all concerned, because of our attitude of keeping the family physicians informed of our findings and of encouraging our employees to visit the latter whenever we felt that medical attention was needed.

The following table shows the distribution of the types of heart disease found among all employees who were adequately enough observed to permit making diagnoses with assurance. Clinical histories, repeated physical examinations, and electrocardiographic tracings were made in the Medical Department whenever indicated.

TABLE 3.—DISTRIBUTION AND CLASSIFICATION OF CARDIAC DISEASES OCCURRING AMONG EMPLOYEES 1921-1939

Diagnosis	As a Primary Condition	As a Com- plication
1 Rheumatic endocarditis with mitral insufficiency, mitral stenosis, etc.	6	
2 Rheumatic myocarditis	4	2
3 Arteriosclerosis with or without hypertension	22	8
4 Hypertension, essential	5	2
5 Coronary sclerosis	3	7
6 Coronary thrombosis		4
7 Angina of effort (pectoris or spasm)	3	5
8 Myocarditis, chronic, with or without decompensation	11	20
9 Auricular fibrillation secondary to	8	4
(a) rheumatic myocarditis	5	1
(b) thyrotoxicosis	3	3
10 Luetic heart disease	2	
11 Unclassified heart disease	2	3
Total cases	66	

Of these 66 cardiacs, 32 died up to 1939, and 7 were pensioned because their cardiac condition incapacitated them; 21 of them are still working, and as far as we can tell are well compensated, and one is known to be decompensated at this writing. The remaining 5 are

apparently alive but their condition is not known to us. The average age of onset of symptoms in these 66 patients was 54 years, and they were able to work an average of 6 years after the discovery of their symptoms. The deaths occurred on an average of 5 years after discovery of heart trouble.

Conclusions

1. Illness accounts for 75 per cent of lost time in a large commercial organization, as compared to 25 per cent lost by reason of injuries. About 8 per cent of total time loss is due to cardiovascular disease.

2. The amount of time lost for cardiac disease is greatest in the case of the unexamined and unselected employees and least in the case of those employed as group A risks.

3. The percentage of cardiacs losing time is smallest in the D group—those not covered by disability—and highest among the older employees entitled to all disability benefits.

4. Chronic myocarditis with decompensation and arteriosclerotic cardiovascular disease constitute at least 50 per cent of all cardiac disability.

5. By selective physical employment and a graded sick benefit plan, those employees liable to lose time because of heart disease other than from acute accidents, can be segregated and given gainful work of a type in which further damage to a diseased heart is avoided. Such a plan of employment eliminates the danger of setting up a social and economic inequality in the case of certain applicants.

130 East 67th Street

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1. R. Franklin Carter, M.D., F. Howard Westcott, M.D., and A. W. Allen, M.D. N. Y. State J. Med. 37: 162 (No. 2) (Jan. 15), 1937

TABLE 1.—CARDIAC SURVEY OF EMPLOYEES HIRED WITHOUT PHYSICAL EXAMINATION, 1921-1939

No. of Employees According to Medical Rating	Total Years of Employment	No. of Employees Who Have		Total Time Lost (Days)	No. of Employees (Including Pensioned)			Cost per Man on Average-Salary Basis (\$7.00 a Day)
200	4,451, av. 22 yrs. per person	Lost No Time (34%)	Lost Time (66%)	16,597	Working (50%)	Removed (19%)	Died (31%)	\$580.89
		67	133		99	39 { P-32 } { R-7 }	62	

Group C: 422 physically able to work, but having some physical defect not impairing health and not easily corrected—i.e., deformities, old injuries, poor hearing, etc.

Group D: 224 rejected for employment because of physical defects or histories of conditions which caused them to be risks.

In groups A and B, the average time lost for all medical illness was very low, and the percentage of time lost for cardiac disease was due to those unavoidable emergency cardiac failures or heart attacks unpredictable by either physical examination or recent history.

Out of the total of 619 employees with A ratings, only 19 have reported to us with any cardiac symptoms or medical certificates indicating that they had been ill with any related disease. Of these 19 only 5, or 26 per cent, have lost a total of 106 days, at a cost of less than \$1.20 a year per man for the total group. This represents a negligible amount and cannot be reduced by any improved methods of diagnosis or pre-employment examination.

Of the 1,454 group B employees examined, 114 were found to have heart ailments. Of these, 72, or 63 per cent, lost no time; 42, or 37 per cent, lost a total of 3,911 days because of heart ailments. The average length of employment in this group was 10 years, and the cost per man for the whole group amounted to \$18.82 a year.

Among the 422 group C employees, 145 were employed with histories of rheumatic fever or other heart-damaging childhood disease, or with known cardiac abnormalities, such as a heart murmur, irregularity of rate or rhythm, and elevated blood pressure above the high normal. The average length of employment for this group is 9 years, and their average age in 1939 was 59 years. One hundred and twenty-three, or 86 per cent, have lost no time because of heart trouble, and the remaining 14 per cent have lost 1,684 days because of cardiac or directly related conditions, at a cost of \$11,788. This makes average cost for the groups as follows: (1) \$579.81 for each cardiac losing time; (2) \$143.55 for each cardiac employed irrespective of loss of time; (3) \$27.88 for each C-rated employee per year.

During this 19-year period the average cardiac with C rating worked for 4 years after his first heart-disabling illness. (Deaths are too few to be of any statistical value.) At the present time 92, or 63 per cent, of these cardiacs are still working, and 37, or 26 per cent, have been removed for causes other than health (average turnover probably accounts for this loss of employees). Fifteen, or 10 per cent, have died; 7, or 5 per cent, of these were cardiac deaths directly associated with the loss of time.

The D cases present a different type of study, because they were all poor risks to begin with, or became D cases because of illness which caused them to use up all their disability pay. Employees are given this rating for any one or more of the conditions listed previously as "causes for rejections."

During this 19-year period, 224 employees were so classified, and 86 of these have been considered as having some cardiac disability. These 86 have worked an average of 3½ years to date, and only 2 per cent have lost any time because of the heart conditions. This very low morbidity rate is difficult to explain on a scientific basis, but economically the answer is evident. It has been our observation that, under our present system of sick benefit payment, many days are lost for minor illnesses or conditions, which under a nonpayment system would not be lost. This group should, according to their histories and our physical findings, have had a much higher percentage of time lost than the A, B, or C groups. The one great difference lies in the matter of compensation. The latter groups, being entitled to sick benefit, are quicker to stay away, while the D cases, being not so fortunate, work in spite of minor health disabilities.

The problem of making a correct diagnosis in heart disease is difficult in any group where a fair percentage of patients are not seen by the examining physician until after their acute episode. Our best methods of checking were through direct contact with the family physicians, by way of written medical reports, telephone conversations, or through visiting nurse service from the Medical Department. As a

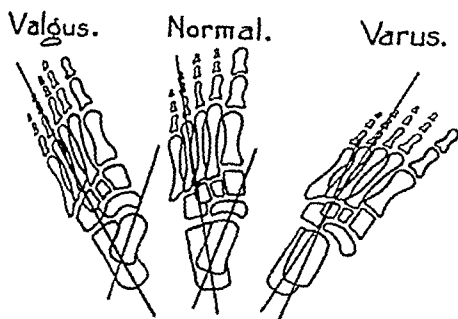


FIG. 1. Schematic drawing to show how foot rotates internally and externally under talus between normal positions of varus and valgus heel.

impression. Some authors have reported areas of blood blisters or hemorrhage in the tissues of the feet at the site of contracture.

Principles of Correction

The principle which underlies the correction of the deformities is, in brief, a slow stretching of the contracted tissues in the line of normal joint motion. The deformed section of the foot is pulled away from its bent position, carried well past the neutral mid-joint position, and pulled around to the opposite limit of the joint motion into a position of overcorrection. There it is held for a long period of time, usually three months, until the foot has had some opportunity to grow and further nullify the effect of the contracture which causes the deformity.

It is a property of all fibrous tissue to contract upon itself unless it is stretched. But stretching the part to its full limit of motion twice a day will usually prevent recurrence of any contracture. This contracture area, however, does not stretch with growth as well as normal tissues. As the foot continues to grow in length, there is a definite tendency for the distal segment of the foot to swing back into its old deformed position. This tends to occur with each period of rapid growth in the child; therefore the foot must be stretched daily for years. If this stretching regimen is carried out religiously by the mother, it is rare to see a deformity recur. The corrective shoes prescribed for the child are an aid in carrying out this principle, and they hold the foot in a position which is slightly corrected past the neutral.

Operative correction of the feet in these very young children is not done as much now as in previous years. The results have not been as good as with the slower plaster-cast stretching. It is true that when an untreated

clubfoot is seen in an older child, an operation may be necessary, but in general it may be stated that a child seen at birth and treated immediately should not have to expect surgery.

In the plaster-cast treatment of clubfoot, the varus deformity is usually easily removed. So is forefoot adduction and the cavus element. But the equinus contracture as a rule will either come out immediately or will cause a lot of trouble. If the wedging and stretching to correct equinus is done in a faulty axis, not in the line of normal joint motion, the ligaments may give way in the process before the equinus is removed and a "rocker foot" will result. Then it is almost impossible to remove the equinus without surgery. Therefore, when correction of the equinus is contemplated, the axis of stretching must be considered with more than usual care.

The forefoot adduction lends itself easily to correction, but to maintain this corrected position is another story. The foot must be constantly observed through the growth period, and frequently the x-rays will show more recurrence than can be seen by clinical examination.

Roentgenograms

Roentgenograms are important in the treatment of foot deformities. In any obvious deformity, they should be taken as a matter of record for future reference as the treatment progresses. In mild deformities, which represent only a "tendency" clinically, the roentgenogram may show considerable actual change present. Many feet appear corrected clinically, but are seen to be insufficiently corrected when the roentgenograms show the true state of affairs.

The salient points to observe in the anteroposterior roentgenograms are (1) the angle the talus makes with the calcaneus in the anteroposterior view, and (2) the position of the forefoot on the heel.

The anteroposterior view measures the rotation of the foot under the talus. The talus is the fixed point, since it is held immobile in the ankle mortise. Therefore, if the calcaneus makes a severe angle with the talus, it is rotated under it. It may be rotated either internally to produce a varus foot or externally to produce a valgus foot. This anteroposterior view also shows the degree of forefoot adduction or forefoot abduction on the calcaneus. Normally, the long axis of the calcaneus points down the fifth metatarsal. If the films show the metatarsals deviating

THE MANAGEMENT OF FOOT DEFORMITIES IN THE NEWBORN

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THE foot of a normal newborn infant is extremely flexible in all directions and presents a wide excursion of motion. It can be swung into such extreme valgus that the toes touch the lateral surface of the tibia, or into such varus that it looks like a severe clubfoot.

A deformity of the foot in the newborn is essentially a contracture, holding a section of the foot in a position which is a part of its usual range of normal motion. The diagnosis of a deformity, then, is made when the foot cannot be passively corrected with the examining hand past the neutral foot position into overcorrection. If the contracture is on the medial side of the foot, the deformity is a metatarsus adductus. If it occurs more extensively on the medial side and farther posteriorly, it is an equino-cavo-varus clubfoot. If it is on the lateral side of the foot, a valgus deformity will result, and if this deformity is severe, it will produce the rare "plantar-flexed talus."

Foot Mechanics

Knowledge of the normal motions of the foot is essential to the understanding of these deformities and their correction. It is best to consider the foot as two main units, the forefoot and the rear foot. For practical reasons, the talus (astragalus) should not be considered as forming a part of either unit of the foot. It belongs to the leg from the ankle upward, the talo-tibio-fibula unit, and it forms the base of the platform on which the body weight testers on the unstable movable foot. The talus is held in the ankle mortise and is prohibited from any lateral motion. The only contracture of which it can become a part is dorsiflexion and plantar flexion, a simple anteroposterior motion. All true motions of the foot proper take place below it, in the subtalar joint, or distal to it in the tarsal and metatarsal joints.

The varus and valgus motion is done just below the talus in the subtalar joint, and this is really a rotary motion of the calcaneus under the talus instead of a simple tilting or rocking motion, as we are so often inclined to think it. Thus it is impossible to make a varus heel without rotating the whole foot under the talus. It is equally impossible to make a valgus heel without externally rotating the foot

under the talus. This important point is utilized in the plaster-cast correction of the clubfoot deformities. The correction lies in pulling the foot from one extreme of rotation to an overcorrected position near the opposite extreme of rotation.

The normal motion of the forefoot on the rear foot takes place through the tarsal joints. Although this motion in an adult is comparatively small, in a child the range of excursion is considerable. There is an anteroposterior motion allowing dorsiflexion and plantar flexion, a side-to-side motion allowing forefoot adduction and forefoot abduction, and a rotary motion allowing supination and pronation. These motions take place even though the heel or calcaneus is held fixed and immobile in the examining hand, and the forefoot is said therefore to be adducted or abducted, as the case may be, on the heel. If a contracture occurs on the medial side of the tarsal region, it can cause an adducted forefoot on the heel, with the heel moving freely under the talus into a varus or valgus position. This is the typical metatarsus adductus deformity. With this adduction there is usually some supination, so that the deformity is usually called a metatarsus varus.

Etiology

The etiology of these deformities is difficult to state with any degree of accuracy. Heredity plays some role, particularly in the clubfoot group. Congenital syphilis has been responsible in some of the cases. Browne feels that the deformities can best be explained by a disturbance of the hydrodynamics of the amniotic fluid. He believes that the increased intra-uterine pressure can force the feet of the embryo with such pressure against some part of the child's body that essential changes occur in the tissue at the contact sites. The embryo's feet are bent normally into such positions in the uterus that they simulate the typical deformities which we see at birth. It is entirely possible that excessive pressure can cause what amount to pressure sores at the area of contact, and when these heal the resulting scarring holds the foot in the deformed position. When the feet have been pressed against the skull and face, the indentations are sometimes deep and cause permanent distortion of the areas which received the foot



FIG. 3.

FIG. 4.

Fig. 3. Right foot normal. Left foot is clubfoot, with both forefoot adduction and internal rotation of calcaneus under talus.

Fig. 4. Same left foot as in Fig. 3, after plaster-cast correction. Notice how both talocalcaneal angle and forefoot adduction have been corrected.

ten days. This allows but one wedging to each cast applied. But it is much safer from the standpoint of pressure sores.

When the foot has been swung out far enough into external rotation under the talus, as determined by roentgenogram, the equinus is corrected. To do this the foot is allowed to swing back to neutral position clinically and a new plaster boot is applied, with the talus resting squarely on the calcaneus. If the equinus is corrected with the foot in marked valgus, the talar neck is supported only by the sling ligament (inferior calcaneonavicular ligament) and this ligament may stretch before the talus can be forced into dorsiflexion. This will result in a plantar-flexed talus flat-foot, a difficult complication to correct subsequently.

When the equinus has been removed, a new plaster boot is applied, holding the foot in dorsiflexion and in external rotation under the talus. This is a "retaining" plaster cast. It is changed only when the foot grows and the cast becomes constricting. It is planned to maintain this cast for three months after the date of full correction. This is sufficient time for the contracture to be well stretched out, and for the foot to have grown a little in an overcorrected position. At the end of three months the cast is removed and the mother is instructed how to stretch the foot to its full position of overcorrection, twice daily. This stretching must be done in three ways. (1) To maintain the valgus position, the foot must be externally rotated under the talus

by pressure on the first metatarsal shaft while a countertwisting motion is made by grasping the tibia and fibula. (2) The correction of the forefoot adduction must be maintained by pressure on the first metatarsal shaft and the big toes while counterpressure is made with a grip on the heel, in this manner levering the foot over the calcaneocuboid joint. (3) The correction of the equinus must be maintained by stretching the foot into dorsiflexion with the knee fully extended, since a flexed knee relaxes the gastrocnemius element of the calf.

As soon as the baby is able to walk, "fore-foot abduction" shoes are prescribed. These are shoes which have the distal half of the forefoot in some abduction on the heel. They simply serve to maintain correction of the forefoot, since this is the clinical phase which recurs most quickly. The outer half of the forefoot may have a sole wedge of $\frac{1}{6}$ inch applied by the cobbler, and the outer half of the heel should always be wedged $\frac{3}{16}$ inch for the succeeding three years of life. This wedging tends to maintain the foot swung out into external rotation under the talus, and weight-bearing therefore tends to correct the recurrent tendency with each step the child takes.

2. *Metatarsus Varus*.—The treatment of this deformity is best done with plaster wedgings even in mild cases. This method is easy and sure, and requires much less effort than instructing the mother in manual stretching, only to have the deformity recur as the

inward, but the talocalcaneal position essentially normal, then a metatarsus adductus is present. If the metatarsal bones tend to overlap one another, then there is a supination of the forefoot on the heel to produce a true metatarsus varus. This is always associated with adduction of the metatarsals on the heel.

The salient points to observe in the lateral views are (1) the position of the calcaneus, to give the measure of equinus in a clubfoot, and (2) the position of the talus in valgus flat feet, to determine whether or not a plantar-flexed talus exists. A calcaneovalgus flat foot is easily corrected, but the same foot showing a turned-down talus in the roentgenogram requires special and prolonged treatment.

Treatment

1. *Clubfoot*.—Treatment of foot deformities yields the best results when done as soon as possible after the child is born. At St. Luke's Hospital, we are fortunate in being called to see newborn infants with foot deformities shortly after they are born. I have applied a cast to a baby only five hours old. On the average, however, the first day or two of life is the optimum time to begin correction. Not only is treatment easy then, but the foot has a chance to grow in the corrected position and tends to hold its correction.

The method used on these children is as follows. First, the child's leg, from the toes to mid thigh, is painted with compound tincture of benzoin. This serves two purposes: it protects the skin, and it affords a good sticky base on which the padding is not prone to slip. A thin sheet of felt is cut to encircle the foot and leg as high as the knee. This is held in place with adhesive and maintains its position well on the sticky base of benzoin. Plaster is applied over this felt with the foot held in equinus, and as the plaster hardens the foot is pulled into as much correction as possible. The plaster covers the toes, because the toes are frequently in varus too, and must be swung outward with the forefoot. If the plaster stops short of the toes, an ugly varus toe deformity results after wedgings. On the other hand, by stopping short the level of the plaster below the knee during this stage, one can see how much true correction is obtained through the foot itself. If the plaster is put above the knee at first, one is fooled by the rotation of the tibia on the femur through the knee joint. The foot correction is made by pushing on the medial side of the



FIG. 2. Left clubfoot. Right foot normal. In clubfoot deformity there is forefoot adduction plus rotation of calcaneus under talus.

first metatarsal shaft and head, so that the foot swings into external rotation under the talus. Counterpressure is made on the side of the fibula shaft and not at the ankle. Pressure areas are not apt to develop over such a large flat area as the fibula shaft.

When this plaster hardens the cast is extended up above the flexed knee to the mid-thigh. This causes no strain on the knee. The thigh is included in the plaster because the infant is less likely to kick his feet about and so dislodge the plaster or badly scratch up his other normal foot.

In five days the foot is wedged farther into external rotation under the talus. This is done by cutting a wedge out of the plaster down to the felt and pulling the foot still further into external rotation under the talus. There are several ways of cutting these wedges to swing the foot around. We are very partial to the method of Kite, because it has the advantage of completely correcting the forefoot adduction, and, in so doing, corrects the internal rotation of the foot under the talus. In congenital clubfoot, the forefoot adduction is corrected first. In doing this there is considerable correction of the varus (or internal rotation under the talus) which takes place at the same time. For the foot is so small, and the cast (even a snug one) so loose, that there is considerable play of the correcting force through all the joints below the talus. As a rule, by the time the forefoot adduction has been corrected, the whole foot has rotated considerably under the talus. This rotation must be completed, until, by roentgenographic examination, the desired angle of the talus and calcaneus has been achieved. In the young baby, the foot grows so quickly that a complete change of plaster is indicated usually in



FIG. 7.

FIG. 7. If talus overlaps calcaneus as in right foot, calcaneovalgus foot will develop into severe deformity. Normal relationship is present in left foot.



FIG. 8.

FIG. 8. Baby's calcaneovalgus foot, as in Fig. 7, will develop into this type of foot. This is plantar-flexed talus foot.

tice of the obstetrician's tying a string around the extra toe is not always a good one, unless the toe is a mere nubbin attached by a skin pedicle to the foot. It is better to wait a few days, radiograph the foot, and then excise the toe with a scalpel, being careful not to damage the abductor to the toe. The prognosis in these feet is excellent. The complication to be watched for in after years is the presence of a prominent head of the fifth metatarsal, which can cause trouble by reason of shoe pressure. This may need exostosectomy at a later date.

4. *Hammer Toes*.—In the newborn infant, hammer toe of the second toe is rarely noticed. It tends to become apparent in subsequent months as the child grows. But at birth the contracture is so slight that it is rarely observed. The treatment lies in preventing a permanent contracture from developing.

This is done by stretching the toe to its full range of motion daily. The distal two interphalangeal joints must be stretched to full extension so that they are in a straight line on the proximal phalanx. But the metatarsophalangeal joint must be stretched into full flexion of 90 degrees on the metatarsal shaft. This twice daily stretching of the toe will prevent the formation of a typical hammer-toe contracture, and it does away with the nuisance of constantly applying and fitting splints to the toe. The toe is too small to make splint treatment practical.

The stretching, however, merely prevents a hammer-toe contracture from forming, and it prevents the development of painful dorsal corns from shoe pressure. But it does not cure the underlying muscle imbalance which primarily is responsible. This toe is a constant nuisance as the child becomes older and larger, and surgery is usually indicated at a

later date. The operation of choice is an arthrodesis of the proximal interphalangeal joint in full extension.

The congenital hammer toes of the fifth toes are treated conservatively by the same stretching procedures as are the second toes. They will need surgery at a later age, and the procedure of choice here is a plastic operation and not amputation.

5. *Calcaneovalgus Feet*.—This is most frequently the position in which the child's feet are found at birth. A quick examination will show whether they will passively reduce beyond the neutral position to inversion. If they do this, then no further care is required. Many, however, cannot be placed even in the neutral position. They are held semirigidly in valgus and tend to lie along the lateral surface of the tibia in marked dorsiflexion as well. These should all have roentgenograms to determine one essential point, namely, whether or not the talus is plantar-flexed in the ankle mortise. If the talus is turned downward, then there is present a rare and serious form of congenital calcaneovalgus foot, a "plantar-flexed talus" foot. The child should be placed in the hands of an orthopaedic surgeon, for the treatment will be difficult, long, and tedious. These feet are rarely seen, but they can be helped if properly handled. If left untreated, they develop into a serious deformity which the French call "pied en piolet" or pickax foot. Although the mild type of this deformity can be treated with wedging plaster casts, most cases come to surgery, and some form of surgery should be done early.

If the roentgenograms show that the talus is not plantar-flexed to overlap the calcaneus, then the foot can be easily corrected. The method of choice is to massage and stretch the foot into the equinovarus position. This is

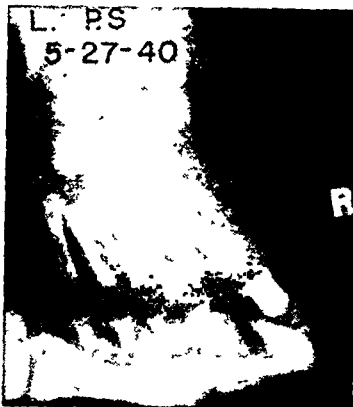


FIG. 5.



FIG. 6.

FIG. 5. Metatarsus varus of right foot. Notice how talocalcaneal angle is normal in presence of severe forefoot adduction.

FIG. 6. Same feet as in Fig. 5 after plaster-cast correction.

baby grows. It is almost impossible to get the mother to stretch the baby's foot hard enough to assure correction. When the doctor assumes the task, the baby cries and the situation is very difficult.

The type of cast applied is the same as that used in the correction of congenital clubfoot. Over a base of felt stuck to the compound tincture of benzoin, the cast is applied with the foot in equinus. This equinus position gives a purchase on the tiny foot. As the plaster is hardening, the forefoot is pushed into abduction, while the counterpressure is applied on the heel. This means that the forefoot is levered into abduction at the level of the calcaneocuboid joint. The foot is not swung out into external rotation under the talus as in the correction of clubfoot. These metatarsus varus feet are already in external rotation under the talus, as the roentgenogram will demonstrate. If anything, they need to be held, not in a valgus heel position, but in a little varus. The cast need extend really only as high as below the knee, but to prevent the baby from scratching his normal foot rather badly on the plaster, it is best to include the midhigh in the cast. This extra immobilization prevents too free a leg motion.

Most of the deformity which is to be corrected is an adduction of the forefoot on the heel, but many of these cases have an associated supination of the forefoot to be removed. It is this forefoot supination, with the adduction, which has given the deformity its name of metatarsus varus. Therefore, when the plaster is hardening, the forefoot is pronated a little on the heel at the same time as it is

carried into abduction to correct the chief deformity.

After the plaster cast has been on the foot for five days, a wedge is cut out at the level of the calcaneocuboid joint. The foot is then pulled still further into forefoot abduction on the heel, and a roll of plaster on top of this maintains the new position.

These feet are usually easily corrected of their adduction deformity. "Retaining" plasters are applied periodically in the succeeding three months' period as the baby outgrows each boot. At the end of three months, the plaster boots are dispensed with, and the mother is instructed how to stretch the foot twice daily into an overcorrected position. This must be done religiously, for there is a great tendency for the adduction deformity to recur as the foot grows. Roentgenograms usually show the returning adduction of the forefoot before it can be observed clinically.

When the child is old enough to walk, it is best to fit the feet with shoes which have an outswung last. These are forefoot abduction shoes of the type used in clubfoot. The main point is, however, not to fit the child with so called "orthopaedic shoes," which have an adducted forefoot on the heel and tend to swing the foot into the very deformity that has been corrected.

3. *Accessory Toes.*—When the baby is born with extra toes, it is necessary to see in the roentgenograms which toe, the fifth or the sixth, is the one that can most readily be excised. Occasionally there is a poorly formed sixth metatarsal and this should be excised together with the accessory toe. The prac-

and when the parents can be relied upon to look after them properly, allow the patient to be taken home after each treatment. However, on the whole we are convinced that better results will be obtained if clubfoot patients are hospitalized. So much for equinovarus.

Other Conditions.—Our treatment of metatarsus varus, hammer toes, and calcaneovalgus so closely coincides with Dr. Thompson's description that comment is unnecessary.

Accessory toes present such odd deformities sometimes that it is impossible to decide which

toe to remove. I believe that radiographs should always be made before deciding what procedure to take, unless, as Dr. Thompson says, the toe is a mere nubbin. Before coming away, I checked over some of these cases of supernumerary toes, and thought that it might be of interest to you to see the slides of a small boy and a small girl who are brother and sister. These slides are interesting because the patients are in the same family, and they also bring out the point that it is easier to know which toe to remove when we have x-ray.

CAUSES OF FEARS IN CHILDREN

Extreme fears in children, shown by sleep-walking, night terrors, nightmares, inability to sleep, and phobias about spiders, cats, and death of one or both parents, can be traced to neurosis and instability in the parents and disturbance in their relationship, Dr. Jacob Kasanin, Dr. Joseph Solomon, and Miss Pearl Axelrod, of Mount Zion Hospital, San Francisco, found in a study of anxiety states in twenty children.

The anxiety state may develop as early as the age of two years. The children in the San Francisco study were between the ages of four and twelve years. None of the mothers could be considered stable, mature women, and many of the fathers were also neurotic.

Both parents and children were treated, and when the parents were able to overcome their anxiety and take a more grown-up attitude toward their problems, the children improved.

When parents were consistent in showing that they did not want children, the latter were less likely to become extremely fearful than when the parents were neurotic and varied between over-devotion and extreme hostility.

More boys than girls were brought to the child guidance clinic for treatment, perhaps because fears in girls are not considered unnatural, whereas when boys are fearful the parents are more likely to be concerned and to seek help for the child. Results of treatment were less satisfactory with the girls than with the boys, probably because none of the girls had a stable father and their mothers were more neurotic than the boys' mothers.

—*Science News Letter*

HOSPITALS STOP NIGHT VISITS

Night visiting periods in the twenty-seven municipal hospitals in New York City were abolished on April 14. Dr. Edward M. Bernecker, commissioner of hospitals and director of the Emergency Medical Service, announced that the change would enable hospital staffs to give their full attention to the sick and injured in event of a night raid.

Extensive construction alterations and additions are being made in the city hospitals to protect patients and the staffs from bombs, shrapnel, and machine-gun fire.

Dr. William Jacobs, medical superintendent at Bellevue Hospital, said that a new roof had been placed over the operating rooms in that hospital, and that a reception shelter for the emergency ward is being built of steel and brick and is designed to shield incoming ambulances from shrapnel fragments and machine-gun fire. The shelter is open, front and rear, permitting ambulances to proceed forward after patients have been removed.

Dr. Jacobs said that on some nights as many as 6,000 visitors have come to Bellevue. The presence of such a large number of visitors obviously would handicap arrangements made to handle emergency cases and victims of air-raid bombings. At such times, the entire staff should be able to devote complete attention to the injured and the sick, and not have to consume valuable time in preventing panic among visitors.

The new schedule would not apply to persons desiring to visit patients in a critical condition. Such patients can be visited at any time.

UNITED STATES LOCAL HEALTH SERVICES EXPAND RAPIDLY

There has been a remarkable growth during the past decade in the official establishment of full-time local health services in the United States, a report by the U. S. Public Health Service (Public Health Reports, February 6, 1942) reveals.

On June 30, 1941, a total of 1,669 counties, 54 per cent of the 3,070 counties within the continental U. S., were being served by a full-time public health unit. In 1915 there were only 14 counties in the entire country with full-time local

service. The number of counties thus served had increased to 762 in 1935, and to 1,669 in 1941. Of the latter number 663, or 40 per cent, were served by single-county units; 426, or 25 per cent, by local-district units, and 580, or 35 per cent, by state-district units.

In addition, 103 cities reported full-time municipal health units, which with the 1,669 counties comprise 70 per cent of the total population of the forty-eight states and the District of Columbia.

—*S.C.A.A. News*

done twice daily, from birth, by the nurse. The lower leg is grasped with one hand at the midtibia, and the foot is pulled downward and inward so that it is internally rotated under the talus. The taut tissue over the sinus tarsi is massaged as the foot is being stretched. Most feet will overcorrect to a varus and equinus position within ten days. But the stretching will have to be continued as a rule for three months after this period. In very resistant cases, where there is considerable scarring in the sinus tarsi, plaster wedging casts will have to be applied and the foot held overcorrected for a period of three months in retention plasters. When once corrected, I have never seen one among such feet that required a second series of plaster wedgings. When the child begins to walk, however, the feet may pronate considerably, and the shoes may need inner heel wedges of $\frac{3}{16}$ inch for some time thereafter. But this is of minor consequence, and in general it may be stated that these feet have an excellent prognosis.

Discussion

Charles M. Allaben, M.D., *Binghamton, New York*—It has been a pleasure and a privilege to review Dr. Thompson's paper, and I heartily agree with his management of these cases. One of my difficulties has been to get these babies when they were newborn. To quote from Shakespeare, "there is the rub." In our own immediate locality we do see them early, and at the hospital are notified by the attending obstetrician of deformities in the newborn shortly after birth. Many of our cases, however, come from a rather widespread area, much of it rural. Often, when we eventually see these cases, we are told that the parents have been told that they should wait three months, six months, or a year before attempt is made to correct the deformities. Fortunately, within the last few years, this fallacy is being overcome.

Of the five deformities that Dr. Thompson has dwelt upon, accessory toes may wait perhaps, but the other four conditions should be treated early. It is important to the child's welfare, a saving in time and expense, and better results will be obtained.

Clubfoot.—To me, Dr. Thompson's description of foot mechanics is complete and needs no further explanation. As to etiology, there is one type of clubfoot which I might mention in particular. This is the type often seen in a child with a spina bifida. This has been one of our greatest problems. It has been our experience that correction with plaster is not permanent, and it is now our custom to correct these feet with plaster, hold them as best as we can with braces, and when the child is old enough do a stabilization.

Principles of Correction.—Concerning the principles of correction, Dr. Thompson's and my ideas run parallel. I feel that it bears repeating that the correction of equinus should not be done until the foot has been swung out into external rotation under the talus. It has been my observation that, in the hands of the inexperienced, the failure to do this has been the greatest cause of failure when correction has been attempted.

Roentgenograms.—Roentgenograms are most important. I am convinced that in the past, had we used this method instead of relying on our clinical judgment only, some of our results would have been more satisfactory.

Treatment.—With the exception of a few minor details, our treatment of clubfoot at the Binghamton City Hospital varies very little from Dr. Thompson's procedure. We set aside Tuesday morning of each week for this work, thus using a seven-day interval between casts instead of a five-day period.

Instead of running the cast up over the knee, we place elastoplast bandage around the leg from the bend of the knee and running down 2 or 3 inches, depending on the age and size of the patient. Then, beginning beyond the toes, with narrow sheet wadding, we wind on one layer up to and just over the lower edge of the elastoplast bandage. The plaster boot is then applied extending only to the knee. As stated above, the cast is changed or wedged every seven days. In wedging, we depend upon our judgment in each case. A cast may be wedged two or even three times before it is replaced with a new cast. We always make sure when wedging that the cast is not too tight. When the foot is sufficiently corrected, the final cast is left on several weeks, usually about six weeks.

Before the child leaves the hospital, clubfoot shoes are fitted. For about a year now we have fitted the small babies with outswung prewalker shoes. These shoes have proved very satisfactory—in fact, more so than I had anticipated. They have a metal piece in the sole and a strap which threads through two slits in the shoe, over the foot, close to the ankle. In some cases where clubfoot shoes have not been obtainable, regular shoes were used, the right shoe being put on the left foot and vice versa, thus throwing the forefoot out instead of in.

We have found that one overcorrection is not always a cure. In a series of 54 individual cases treated at the Binghamton City Hospital, 14 had to be corrected again, and 6 of the 14 had to be corrected a third time. It must be understood that most of the cases were older children, not newborn. Neglect on the part of the parents was responsible in some cases, but I am convinced that several of them would have recurred under the best supervision; in two instances, I recall, treatment was started when the patients were newborn. We treat many of our private patients in the office, especially the little ones,

and separated from each other by 3 cm., the two lateral ports being at 15-degree angle to the horizontal, so that all beams begin to converge at about 8-cm. depth. The filter at the skin consists of 1 mm. aluminum, 1 mm. copper, 1 mm. platinum, and 0.5 mm. brass. The x-ray field sizes are 5 by 5 cm. (Fig. 1), 10 by 10 cm. (Fig. 2), and 20 by 20 cm. (Figs. 3 and 4).

It is clearly evident that the shorter x-ray wavelengths deliver a greater dose at any depth beyond 3 to 5 cm., with less lateral scattered radiation. It is also apparent that the 1,000 kilovolt peak x-ray has an advantage over the 3-Gm. radium element pack in that its isodose curves are stronger not only in the center axis but toward the periphery. Thus, the large field treated is more evenly radiated.

The influence of lateral and backscattered radiations is demonstrated in Figs. 5 to 10. At 70-cm. skin target distance, and with a 5 by 5 cm. field size, the 200 kilovolt peak (160 x) x-ray leads in depth dose down to 3 cm., where it becomes weakest of the three qualities. With a 10 by 10 cm. field size, this change occurs at 5-cm. depth. With a 20 by 20 cm. field size, the crossover is in the region of 6 to 8 cm. depth. At 50-cm. skin target distance, comparable results are obtained. We have added depth measurements from the 140 kilovolt peak (285 x) x-ray unit (Figs. 9 and 10).

So far we have compared single fields. To show the influence of quality in routine cross-fire technic, we have plotted depth doses when a urinary bladder is treated with two anterior and two posterior skin ports. In all the figures (Figs. 11, 12, and 13) each half of the pelvis shows doses from a separate radiation quality. However, each dose recorded represents a summation of four fields treated with one x-ray quality. In this way identical sites are better compared. The treatment factors are: skin target distance equals 70-cm.; skin port, 10 by 10 cm. The anterior ports are separated by 4 cm. and are at a 68-degree angle to the horizontal. The posterior ports are separated by 8 cm. and are at a 62-degree angle to the horizontal. The depth percentages indicate the superiority of short-wavelength radiations in delivering greater relative roentgen doses to the depth.

With the shorter wavelengths, the skin ports receive the higher-percentage roentgen dose, owing to the greater penetration or exit dose as demonstrated in all the figures. However, it is clinically evident that the skin shows a greater tolerance for harder roentgen radiations as against similar roentgen doses of longer

wavelengths. This clinical fact has been substantiated by experiments on biologic test material (Packard²).

This, of course, introduces the mechanism of biologic effect. Such details as ion density and corpuscular velocity at any one molecular layer must be primarily influenced by the incident quality. Since the body is a complex collection of vital cell structures, each being closely allied to its neighbor in its function, and dependent on the surrounding tissue mass for nourishment and cellular stimulation, an intelligent interpretation even of biologic effect must necessarily be extremely difficult. Comparisons in all experiments on biologic test material may not necessarily hold true for the human body. Such a phenomenon as selective wavelength effect is most doubtful. It is more plausible that the lethal effect is one of "electron hits" and many of them. By increasing the dose we multiply the number of hits. We might cite the necessity of "concentrated dose" in the treatment of cutaneous basal-cell epitheliomas. We can describe the ability of supervoltage to deliver greater roentgen doses in the depth as due to the greater penetration power of these radiations, albeit of depreciated quality while of relatively increased ion density. The quality of the x-ray beam in the center of the body or at the skin point where it emerges from the body is much softer than the incident beam itself. For this reason much care must be exercised in using supervoltage x-ray on a thin pelvis or other thin anatomic part. The exit dose may be so great and still so altered in quality that any gain in depth dose is canceled by the skin reaction at the opposing port. Here may it be emphasized that with cross firing with supervoltage it is usually impossible to angulate an incident beam so that its exit will not overlap another port and still cover the lymphatics in a proper homogeneous manner.

Clinically, it is rational to compare biologic reactions following treatment with different radiation qualities only when we recognize the facts that each effective wavelength is an instrument in itself and may vary from another effective wavelength in its tissue activity.

No source of radiation is of any value to a patient unless it is used properly. Here it is most pertinent to stress the importance of the radiologist. He is really a surgeon who substitutes a powerful radiation instrument for a scalpel. There is no reason why even greater improvement cannot be achieved with low- or medium-voltage apparatus. The skill of the

THE CLINICAL AND PHYSICAL SIGNIFICANCE OF QUALITY IN ROUTINE TELERADIATION THERAPY

WALTER T. MURPHY, M.D., Buffalo, New York

THE quality of the primary radiation beam determines its course and behavior in the tissue. In therapy, the spectral distribution of the radiation is heterogeneous, ranging from a minimum wavelength to a maximum wavelength. The greatest concentration of rays is near the short-wave end of the spectrum. The minimum wavelength is determined by the voltage, whereas the total spectral distribution is governed by filter as well as voltage.

When a thimble ionization chamber is placed in the path of this radiation beam, only the amount of ionization which takes place in the chamber is recorded. This holds true with the gamma radiation from the radium element packs. It is conceded that calibrations of supervoltage and radium radiations by the thimble ionization chamber are open to criticism. Thus we measure only that portion of the total energy carried by the beam which has been removed or utilized in that specific volume of air.

But we are primarily interested in the behavior of the beam when and after it reaches the tissue. Again, any measurement of intensity at the skin or in the depth represents only the amount of ionization taking place in the particular volume. Since the biologic effect is directly or indirectly due to this ionization, it seems pertinent to review the chain of events in the life of the primary photon.

It is difficult to describe in exact terms what happens in the tissue, because of many problems of quality measurement. The thimble ionization chamber alone does not define the wavelength or corpuscular velocity. But we may briefly state that the primary photon loses all or part of its energy in proportion to its initial energy. If it is of low energy (long wavelength), all or almost all of the energy is transferred to secondary beta particles, while the rest emerges as photons of much lower energy. If the primary photon is of high energy (short wavelength), less of the energy is transferred to secondary beta particles, while the remainder is carried by the photon itself, following the law of Compton effect. Of course, there are intermediate degrees of

interchange between photoelectric and Compton effects. All the photons and electrons so resulting carry out an almost endless interchange of energy. But the resultant lower-energy photons and electrons transverse shorter paths. We may therefore state that in the softer x-ray spectrum the photoelectric effect predominates, with the maximum energy interchange taking place in the first layers of tissue. With hard x-ray and gamma radiation, the Compton effect predominates, with the maximum energy interchange occurring deeper in the tissue. As the radiation beam goes deeper, the increase in the number of photons traveling in the lateral and backward directions has been described by Failla¹ as comprising "those which have been produced through photoelectric and Compton energy interchanges (largely the latter), and those primary photons which have been scattered without loss of energy."

For any one quality, the field size and skin target distance are of great importance. With longer wavelengths the field size exerts a greater effect on the depth dose. The harder our therapeutic beam, the greater our depth dose, with a relative decrease in the lateral and backscattered radiation outside the main beam. We shall now compare the influence of different qualities on tissue dose when field size and skin target distance remain constant.

Calibration of the radiation equipment was made by the Physics Department with a Victoreen thimble chamber and press wood phantoms. The isodose curves were then applied to a serial section of the female pelvis at the level of the middle of the acetabulum. The anteroposterior diameter is 20 cm. All dose recordings are in percentages of the measurements on the surface with backscatter. Only one-half of the radiation beam is recorded on the charts, in order that the different radiation qualities may be more clearly compared.

In Figs. 1, 2, 3, and 4 we have compared the depth doses of 200 (160 x), 400 kilovolt peak (50 x), and 1,000 kilovolt peak (27 x) x-rays, and 3-Gm. radium element pack (gamma). The x-rays were applied from a skin target distance of 70 cm. The radium pack (Fig. 4) factors are skin radiation distance of 10 cm., and three ports each containing 1 Gm. of radium; the ports are each 5.4 cm. by 9.3 cm.,

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, May 1, 1941.

From the New York State Institute for the Study of Malignant Disease, Buffalo, Burton T. Simpson, M.D., director.

May 15, 1942]

QUALITY IN TELERADIATION THERAPY

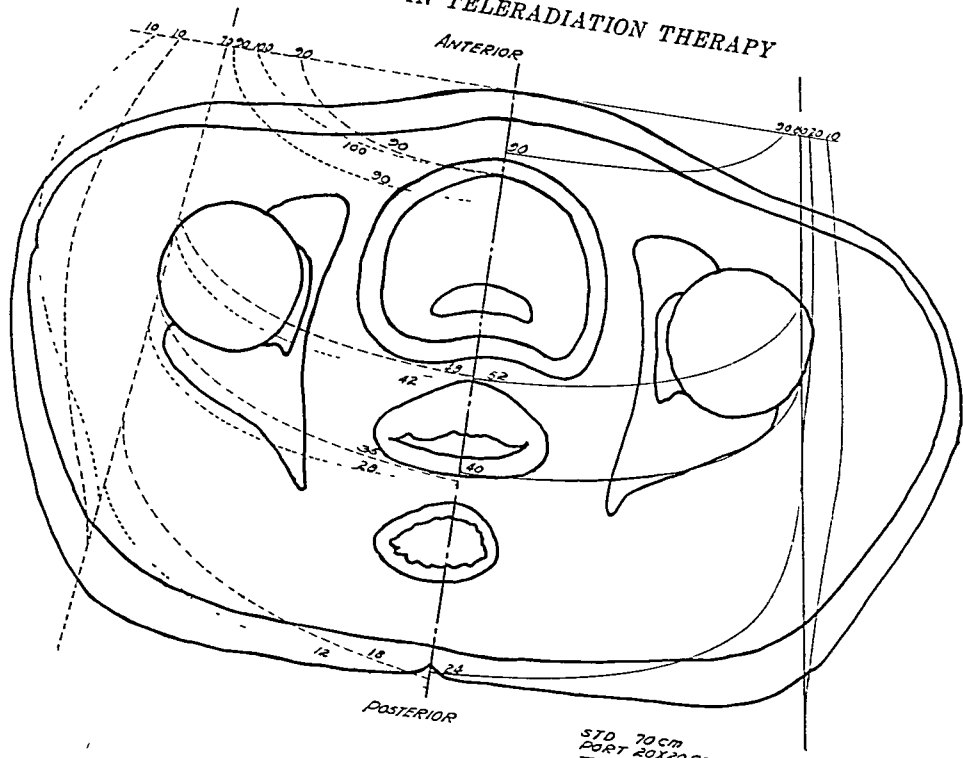


FIG. 3.

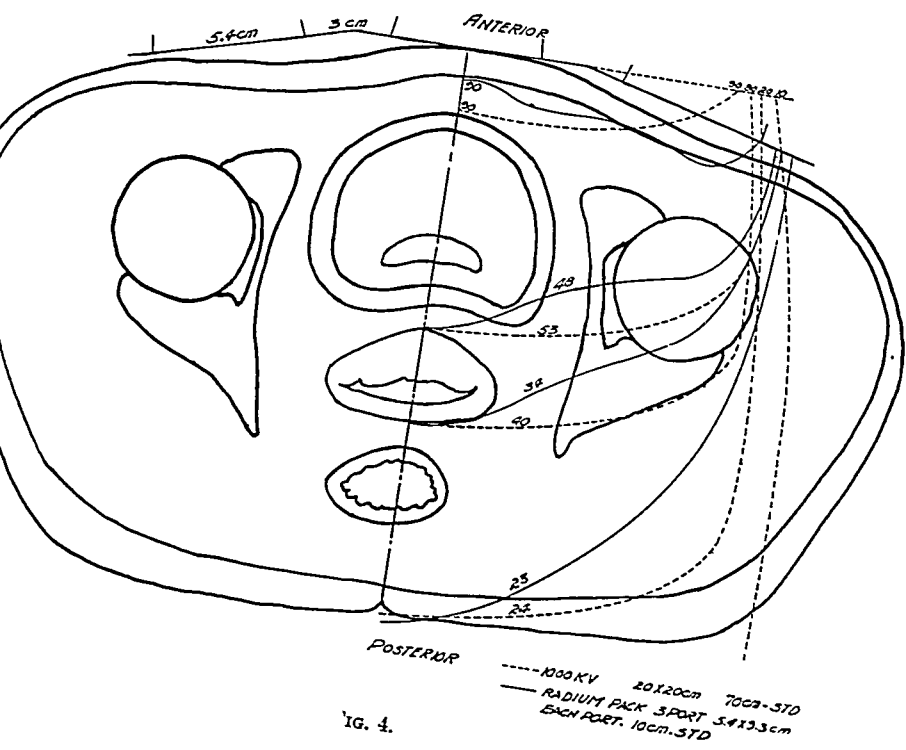
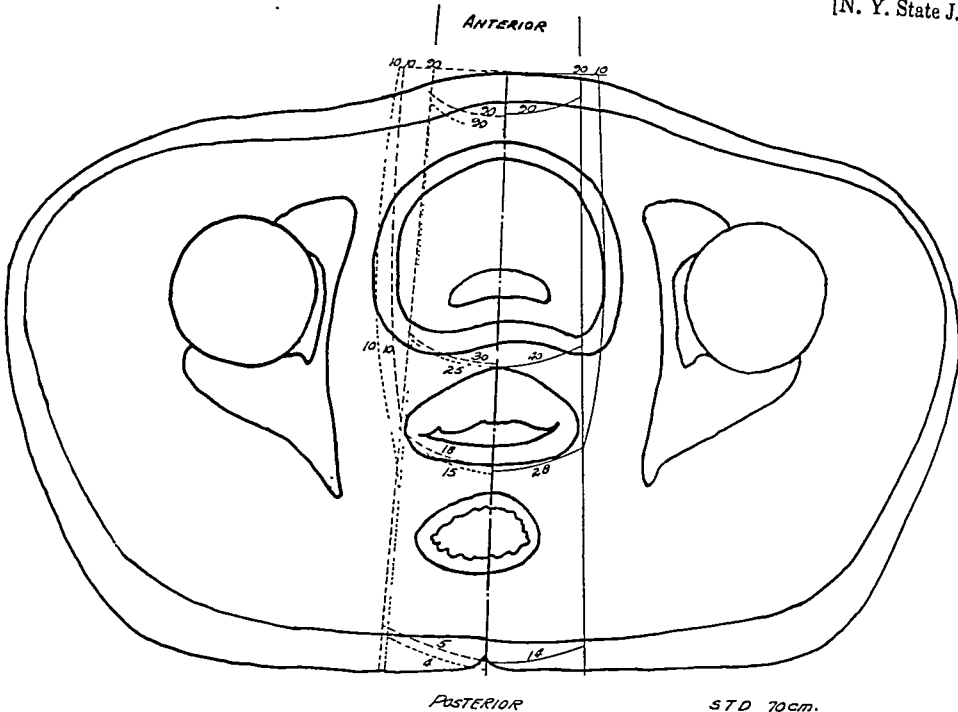
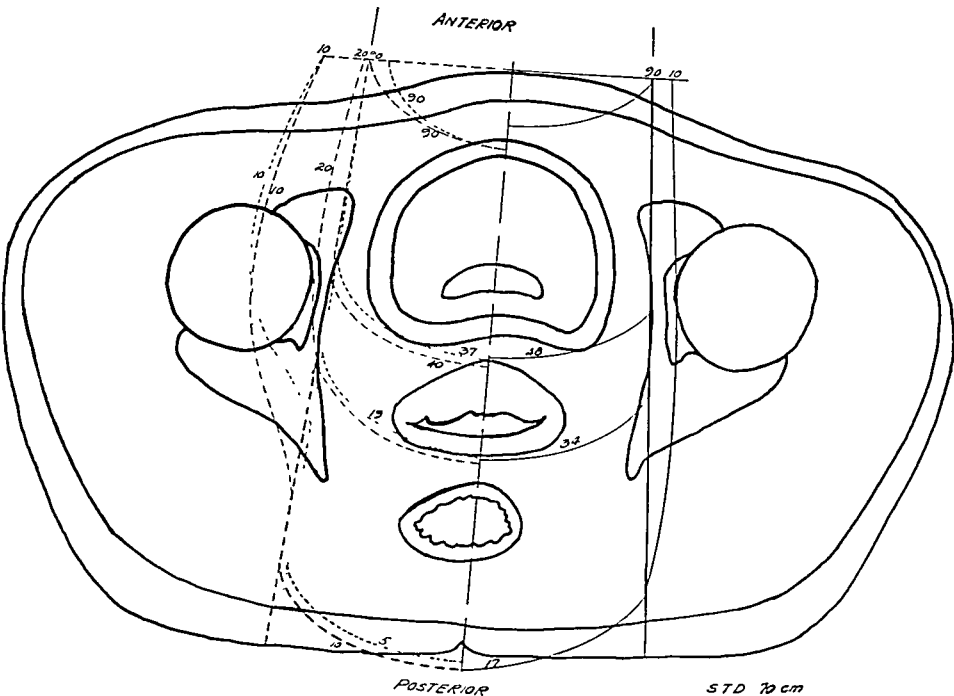


FIG. 4.



STD 70cm.
PORT 5X5cm
—— 1000KV (27x)
--- 400KV (50x)
..... 200KV (150x)

FIG. 1.



STD 70 cm
PORT 10X10cm
—— 1000KV (27x)
--- 400KV (50x)
..... 200KV (150x)

FIG. 2.

QUALITY IN TELERADIATION THERAPY

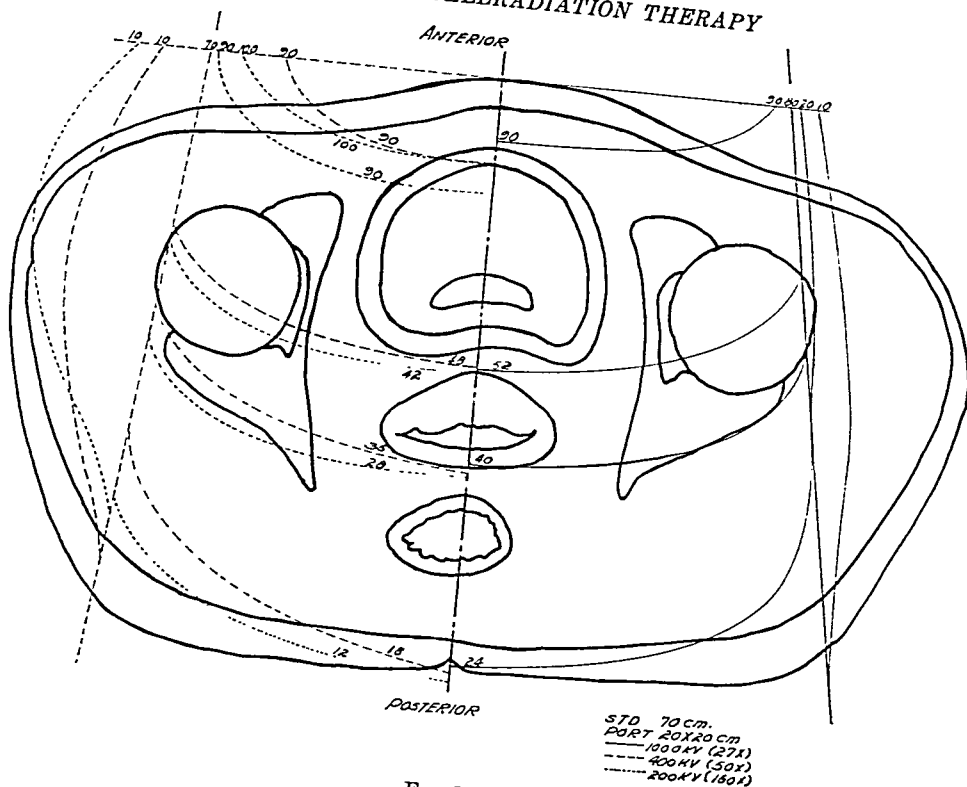


FIG. 3.

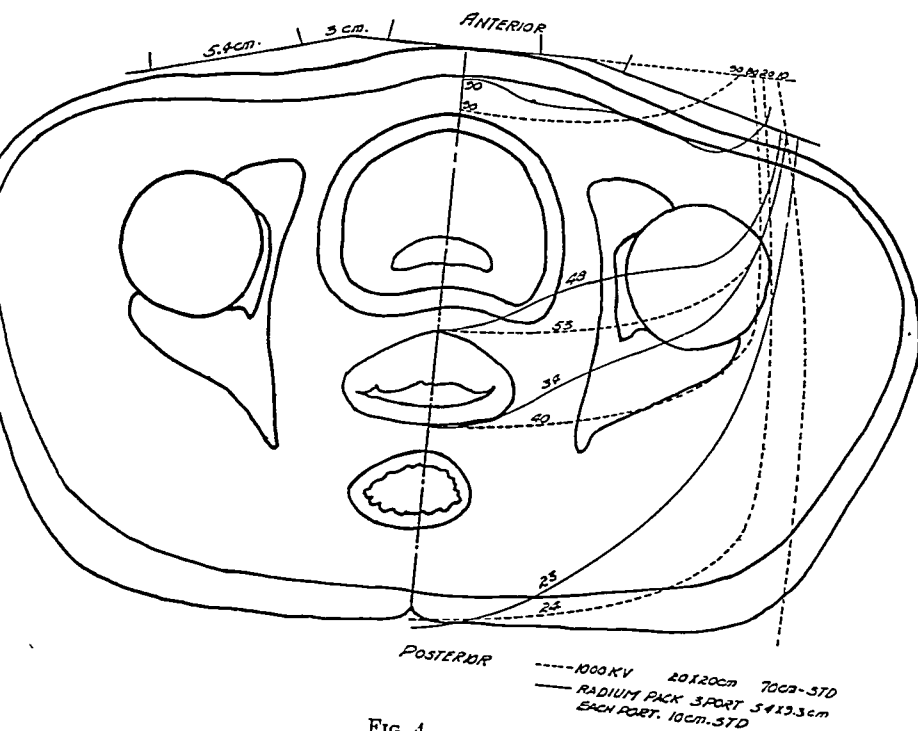


FIG. 4.

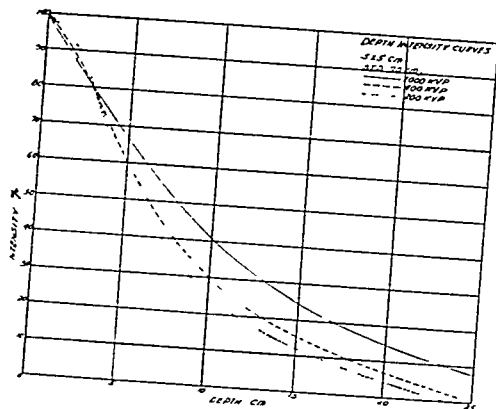


FIG. 5.

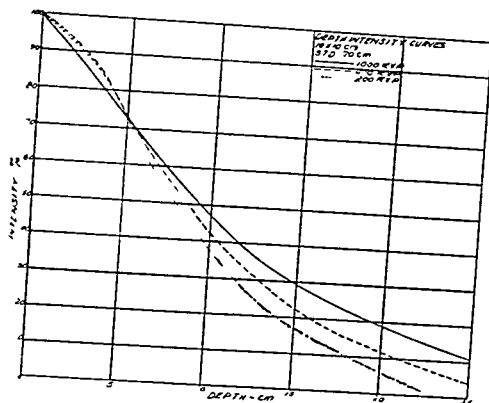


FIG. 6.

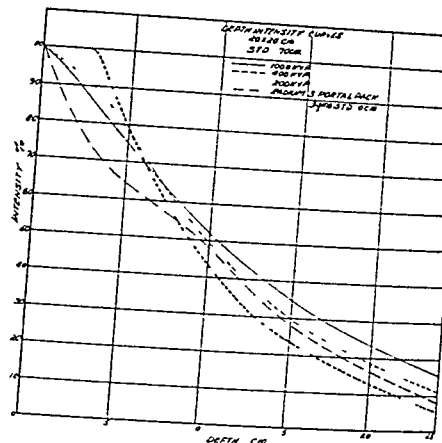


FIG. 7.

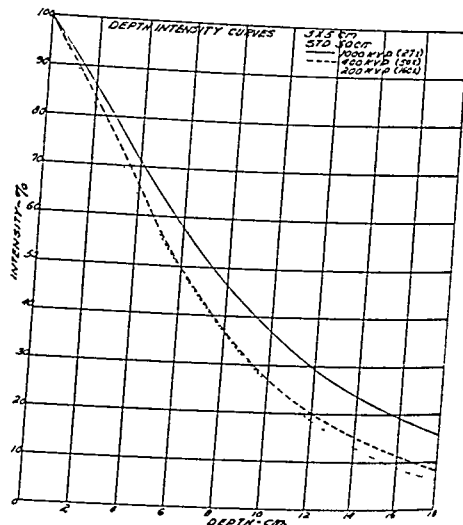


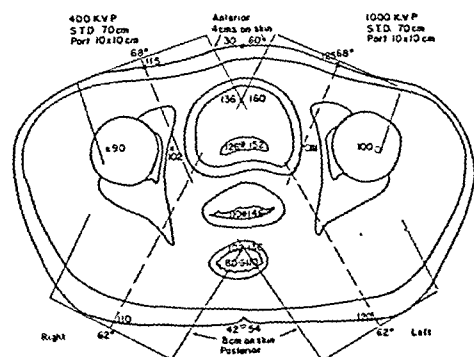
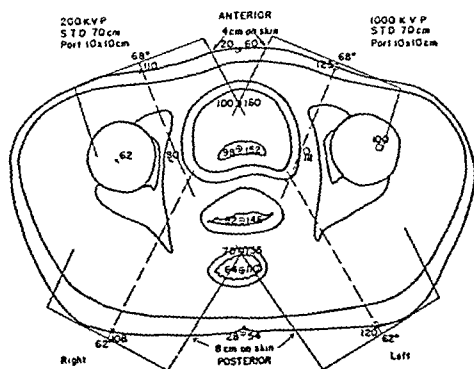
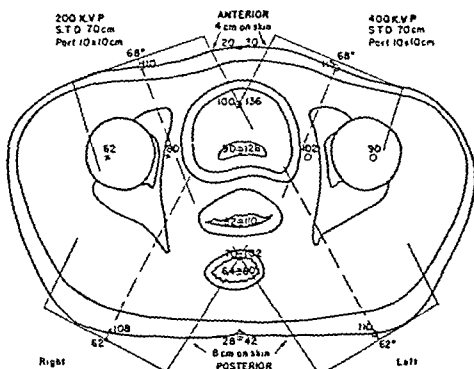
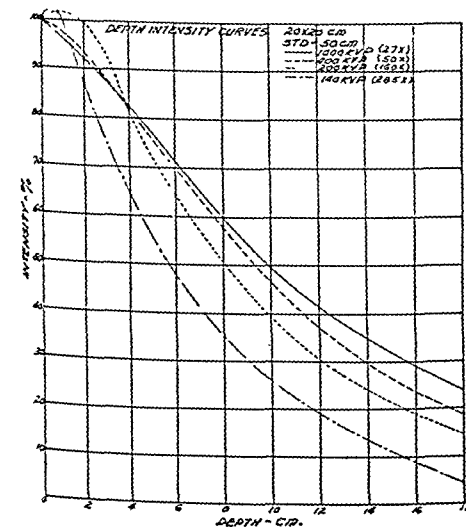
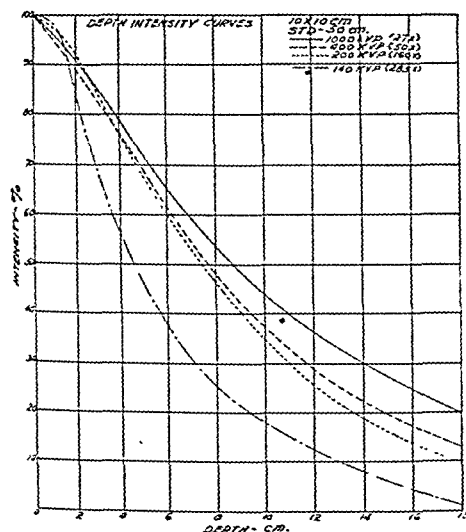
FIG. 8.

radiologist is more important than the limitations of his radiation equipment.

Because of certain physical factors already mentioned, we have no right to compare skin reactions without first evaluating the quality of the primary radiation beam, the degree of electronic equilibrium in the skin, the amount of backscattered radiation (as influenced by field size and quality), the exit dose with its depreciated quality, the cycle or technic of treatment—which includes the roentgen rate per minute—the increment dose, the total roentgen dose to each skin port, and the time (days) over which the treatments have been applied. Therefore, it is obvious that the reaction in the depth would also be governed by these factors.

Clinically, it is possible in our routine practice to deliver far greater roentgen doses in the depth when we use the 1,000 kilovolt peak (27 x) and 400 kilovolt peak (50 x) apparatus. Our 3-Gm. radium element pack requires at least 40 per cent more treatment days to deliver a comparable roentgen dose in the depth.

In spite of any argument that the tissue in the depth should exhibit the same relative roentgen tolerance as the skin, the vaginal mucous membrane has shown much greater reactions following supervoltage radiation (27 x) than following 200 kilovolt peak radiation (160 x), when the skin reactions were biologically similar. With supervoltage (27 x) x-ray radiation the biologic dose may be 80 per cent of the measured roentgen dose, whereas with 200 kilovolt peak (160 x) x-ray radiation the biologic and physical doses may be equal. Nevertheless, the greater roentgen doses delivered in the depth by supervoltage radiation more than offset such a ratio (4 to 5). This relationship in the skin might not hold true for



Because the radiation beam from the 1,000 kilovolt peak (27 x) x-ray unit is so well de-

fined, it is possible to cross-fire more accurately with smaller fields when indicated. This diminished lateral and backscattered radiation outside the main beam accounts partly for the well-being of the patient during therapy. We

are not sure whether the greater roentgen doses delivered by the 1,000 kilovolt peak (27 x) x-ray unit will result in more five-year cures. We do know that the immediate results are more promising and that the patient's general tolerance is much better than with the longer-wavelength radiations.

Conclusions

1. The skin dose and depth dose are influenced by the quality of the primary radiation beam if other treatment factors remain constant.

2. The harder the quality, the less intense are the lateral and backscattered radiation. Thus the 1,000 kilovolt peak (27 x) radiation beam may be applied more accurately because of this confined ionization at depth.

3. Supervoltage (1,000 kilovolt peak) radiation is of distinct advantage only in deep-seated lesions.

4. For the same number of roentgens the tissue reaction as manifested by the skin erythema is less with 400 kilovolt peak (50 x), 1,000 kilovolt peak (27 x), and gamma (3-Gm. radium pack) radiations than with 200 kilovolt peak (160 x) or 140 kilovolt peak (285 x) radiations. Even though the biologic dose of supervoltage radiation may be less than the measured physical dose (e.g., 4 to 5), its power

to deliver large roentgen doses in the depth more than offsets such a ratio.

5. Patients tolerate treatment with supervoltage (27 x) and gamma radiation better than with low-voltage (285 x and 160 x) or medium-voltage (50 x) radiation.

6. With present technic, the 3-Gm. radium element pack requires 40 per cent more treatment days to deliver comparable depth roentgen doses than the 1,000 kilovolt peak x-ray unit.

7. The skill of the radiologist is more important than the limitations of his physical equipment.

8. Improved technic with low- and medium-voltage apparatus (140 to 400 kilovolt peak), when combined with a greater knowledge of both clinical and experimental biologic-physical reactions, will certainly increase immediate and late palliations and cures.

9. This knowledge, as applied with the newer radiation equipment, invites great optimism for the increased value of radiation therapy. Therefore, we may entertain a better prognosis for the cancer patient.

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2. Packard, C.: Radiology 34: 19 (1940).

IMPORTANCE OF HOSPITAL RECORDS

Personally, I have been somewhat surprised by the extent to which doctors leave the making of hospital records to nurses. Thereby, it seems to me, the history is too much opened to error, especially of omission. As evidence, the chart will have probative value largely in proportion as it speaks for the doctor rather than the nurse.

The suggestion is, not that you should do the writing, but only that, as a matter of self-interest, the record is important to you. It is apt to be highly so if fate ever casts you for the part of defendant in a malpractice suit.—ROYAL STONE, Supreme Court of Minnesota, February 22, 1941.—*Clinical Medicine*

SECURITY NEEDED BY ALL

Emotional starvation is just as real as physical starvation. In order to grow emotionally, an individual must feel that he is a worthwhile person, that he is needed somewhere by someone, that there is a place for him in his family group, in his social group, in a vocation, and in the world. He must have, permeating all that he is and does, the certainty that he can confidently look himself and other people in the face. Then he knows security. Superficial observers describe it as self-confidence or self-respect. An individual with security might describe it as the background against which his life is lived.—J.A.M.A.

Friend: "I don't like to say it, dear, but Fred doesn't seem to be as well dressed as when you married him three years ago."

Doctor's Wife: "That's strange. I'm positive it's the same suit."—*The Doctor and Old Quarterly*

POLYPS OF THE RECTUM AND COLON

Their Etiology, Clinical Significance, and Treatment

JOHN C. M. BRUST, M.D., Syracuse, New York

THE earliest recognition of polyps of the rectum dates back hundreds of years. Countless case reports can be found describing prolapsing polyps which received all varieties of treatment. During the past ten or fifteen years a considerable amount of clinicopathologic work has been performed and reported. In all justice it must be said that many of these clinical reports have been repetitious and that many of the conclusions have been unsupported by pathologic studies.

It appears impractical to quote at any length from the literature other than to pay tribute to the painstaking, detailed studies of such men as Dukes, Hullsick, Swinton and Warren, David, Lockhart-Mummery, and others.

At this point, let me summarize what I believe to be the present-day opinion regarding adenomas of the rectum and colon.

1. They are more common in men than in women, and the ratio 3 to 2 is identical with that of carcinomas of the same portion of the intestinal tract.

2. The average age in any large series will be about 46 years and this is about one decade younger than the occurrence of carcinoma.

3. The anatomic location of these polyps closely parallels that of cancer.

4. Symptoms are not characteristic but, if present, merely point to the need for complete sigmoidoscopic examination followed, if indicated, by a roentgenogram of the colon.

5. Polyps measuring less than 1 cm. in diameter rarely produce symptoms.

6. It is difficult and dangerous to state from gross appearance that a polyp is or is not undergoing malignant change.

7. Malignant change in a polyp tends at first to be localized at the periphery and might easily be missed in removing a biopsy specimen.

8. Eradication of polyps of the rectum and sigmoid can, in practically all instances, be accomplished by means of the unipolar fulgurating electrode.

9. The chances of a polyp becoming malignant are too great to allow the physician to regard the condition as unimportant.

10. Present-day evidence points to the apparently benign polyp as the origin of many and perhaps most of the carcinomas of the rectum and colon (Fig. 1).

During a five-year period from January, 1936, to January, 1941, I have done complete sigmoidoscopic examinations on 2,146 private patients and have found polyps in 123 of them. During these same years in the wards and outpatient departments of Syracuse University hospitals, 1,852 charity patients were examined with a sigmoidoscope either by me or under my supervision. The patients in whom polyps were found numbered 89. Pooling these data, we find that in approximately 4,000 persons carefully examined with a sigmoidoscope after cleansing enemas an adenoma, either benign or beginning to undergo malignant change, was found in a little more than 5 per cent of the patients. These figures do not include persons suffering from hereditary multiple polypoid disease, nor do they include multiple polyps or pseudopolyps that were clearly on an inflammatory basis, such as chronic ulcerative colitis.

My purpose is by no means to offer statistics. Rather I intend to present a few different types of problems that we have encountered in this field, to discuss our therapeutic attack, and, above all, to ask for advice and criticism.

The small polyp rarely produces symptoms, is usually discovered accidentally, and is easily destroyed by fulguration. It is a simple office procedure. However, I can do nothing but condemn the casual habit of destroying the polyp and lightly brushing the matter aside without a word of warning to the patient. Such a person should be seen for a recheck sigmoidoscopic examination. The following history demonstrates this fact with startling clarity.

Case Report

Case 1.—This patient, a woman, aged 46, was first seen by me in early October, 1937. The history was of long-standing symptoms of gas, periodic constipation, and passage of mucus. Curiously enough, in 1927 a small benign rectal polyp had been accidentally discovered by her obstetrician. This was excised from the lower anterior rectal wall. No recheck had ever been done. For about one year prior to my seeing her

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From Syracuse University Medical Center Hospitals.



FIG. 1. Polyp of transverse colon discovered at autopsy with carcinomatous degeneration at the tip.

she had noticed a vague sense of pressure in the rectum and increased passage of mucus. A rare streak of blood was casually mentioned.

Sigmoidoscopic examination revealed a flat polypoid mass on the right rectal wall. Area involved measured about 4 by 3 cm. The area was soft, velvety, and freely movable and felt like a thin layer of moss. The patient was admitted to the hospital where it was felt that under a sacral block anesthetic a better exposure could be obtained. A biopsy was taken and fulguration was begun. Anesthesia being complete, the anus was widely dilated, an N. D. Smith speculum inserted, and a splendid exposure obtained. A specimen was taken for biopsy and was reported as benign adenoma (Fig. 2). The entire area was extensively fulgurated, using the Oudin monopolar current, a short pistol length fulgurating handle and tip.

No postoperative bleeding occurred, and eight days later the entire procedure was repeated. This time to our dismay the pathologic report was low-grade adenocarcinoma in an adenoma (Fig. 3). Further fulguration was performed and it was felt that all of the tissue had been destroyed.

In my office one month later she was rechecked, and a tiny elevated area was destroyed by fulguration. Three months later a similar area just inside the sphincter was destroyed by fulguration. During this time both the patient and her husband, who incidentally were people of high intelligence, were aware of the significance of our findings. We had emphasized that radical resection might be needed. The patient herself had flatly refused. Consequently, she was checked every month or two and frequently small elevated polypoid areas were fulgurated. In August, 1938—ten months after being first treated—a small area was found so low down that it was felt that fulguration could not be done without anesthesia due to burning of

the anus. Consequently, she was readmitted to the hospital, sacral block was administered, and the area was deeply fulgurated. (I cannot refrain from mentioning how much more satisfactory the exposure is following block anesthesia. This is particularly true in these flat "mossy" adenomatous growths that are easily missed if the sphincter is not relaxed.) In any event, biopsy taken again showed low-grade adenocarcinoma in an adenoma.

This woman has been rechecked every month or two and for a period of over twenty-eight months no polypoid tissue has been seen. Naturally, we are highly gratified but certain qualms arise. Have metastases already occurred? It hardly seems likely. She is a picture of health and feels wonderfully well. Will recurrence take place? This I cannot tell, but she will be re-examined from time to time. Should radium also have been used? I felt that radium would have helped had the danger of hemorrhage been present, but I believe it is true that adenocarcinoma of such a low grade is practically radio-resistant.

Many of the standard textbooks of the day teach that polyps of the colon and rectum are usually found in children. Certainly this has not been true in my own experience. I have seen but 18 polyps in children in private practice over a period of nearly six years. When these are encountered, certain minor difficulties arise. General anesthesia is usually required and, if the polyp is quite high up—that is, above the peritoneal reflection—great caution must be exercised. Breathing under general anesthesia is deep, and the sigmoid with its polyp moves up and down in an exasperating manner. But, if a small-tipped electrode is used, if the power is kept down, and if the polyp is burned beginning at the periphery, complete eradication is possible. However, it may be necessary to repeat such procedures.

Case Reports

Case 2.—One rather nerve-racking experience stands out clearly. A young girl, aged 7, was brought in by her mother, who ironically was a nurse. The child had been bleeding for six months. Examination in the office was only for about 14 cm. from the anus because of the lack of cooperation from the child. No lesion was seen. Barium enema with double contrast technic revealed a fairly large pedunculated polyp in the middle sigmoid (Figs. 4 and 5).

The mother was opposed to the abdominal approach, so with great misgivings I did the sigmoidoscopic examination and fulguration under a careful and expert general anesthetic. Recheck of the sigmoid again under anesthesia one month later showed a faint gray scar at the

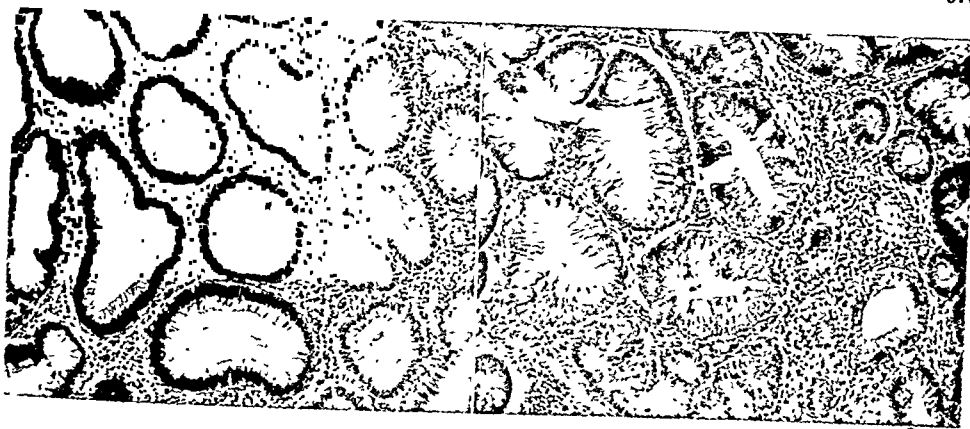


Fig. 2.

Fig. 2. Biopsy specimen from Case 1—benign adenoma.

Fig. 3.

Fig. 3. Subsequent biopsy specimen from Case 1—adenocarcinoma.

site of the polyp. Incidentally, biopsy, taken before fulguration was started, revealed benign adenoma.

Case 3.—A comparable case, though at the other extreme of age, was a woman aged 69, who had been bleeding off and on for about ten years. Previous roentgenographic studies of the colon had failed to reveal any lesion. Sigmoidoscopic examination revealed a polyp on a broad pedicle. The pedicle was about 2 cm. long and the polyp was roughly 4 by 5 cm. in size. The growth was 23 cm. from the dentate line. Here was a difficult problem to meet. The woman was in poor physical condition, with hypertension and a mild diabetes. Her hemoglobin measured only 54 per cent. After long discussion she decided to "gamble" on fulguration rather than laparotomy. It was explained to her that numerous fulgurations would be required, that the risk of hemorrhage existed and might be profuse, and that although the original biopsy showed benign adenoma we could not be certain that carcinoma did not exist. All this she conceded and so we went ahead. She visited the office a total of fourteen times and sixteen months following the last fulguration there was no evidence of any neoplasm. Needless to say frequent rechecks will be needed (Figs. 6 and 7).

I should like to interject my personal views as to the value of the electric wire snare as opposed to the rounded electrode tip. I was beguiled two years ago into purchasing one of the wire snares with the electric connection whereby the loop introduced through the proctoscope or sigmoidoscope is slipped around the pedicle of the tumor, the snare is tightened, and at the same time the current is turned on by a foot switch. The theory seemed good but in actual practice I have had two alarming hemorrhages within twenty hours of the snare excision. I believe it is

better to fulgurate slowly from the periphery of the tumor. It is a large polyp that requires more than one or two attempts and in any event a repeated fulguration is far preferable to the panic that accompanies profuse hemorrhage. Again, I should appreciate advice from those who have tried both methods.

When is hospitalization desirable or necessary? Certainly, in polypoid areas involving the lower rectum, profound relaxation of the sphincter is needed and transsacral or low spinal anesthesia will accomplish this. Where the polyp is well above the peritoneal reflection and exposure is not always easy it is probably best to do the work in the hospital.

Fulguration of adenomas results in a slough and this slough comes away usually about the eighth to the tenth day. At this time bleeding may occur and in rare instances is occasionally alarming. By being content to fulgurate the larger polyps in "piecemeal" fashion I have been fortunate so far in avoiding any serious bleeding.

Should the area being fulgurated appear extremely vascular I am entirely in accord with Dr. Buie, who advocates the immediate placing of radium against the fulgurated area. This is done less to destroy the tumor tissue than to "provide additional insurance against hemorrhage."

As to the actual technic of fulguration certain prerequisites appear outstanding. True, "one man's meat is another's poison," but I would be at a loss without a suction sigmoidoscope or a combined fulgurating suction electrode. I could not do good work without careful cleansing enemas. I need an assistant who is trained. Above all I need an in-



FIG. 1. Polyp of transverse colon discovered at autopsy with carcinomatous degeneration at the tip.

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In my office one month later she was rechecked, and a tiny elevated area was destroyed by fulguration. Three months later a similar area just inside the sphincter was destroyed by fulguration. During this time both the patient and her husband, who incidentally were people of high intelligence, were aware of the significance of our findings. We had emphasized that radical resection might be needed. The patient herself had flatly refused. Consequently, she was checked every month or two and frequently small elevated polypoid areas were fulgurated. In August, 1938—ten months after being first treated—a small area was found so low down that it was felt that fulguration could not be done without anesthesia due to burning of

the anus. Consequently, she was readmitted to the hospital, sacral block was administered, and the area was deeply fulgurated. (I cannot refrain from mentioning how much more satisfactory the exposure is following block anesthesia. This is particularly true in these flat "mossy" adenomatous growths that are easily missed if the sphincter is not relaxed.) In any event, biopsy taken again showed low-grade adenocarcinoma in an adenoma.

This woman has been rechecked every month or two and for a period of over twenty-eight months no polypoid tissue has been seen. Naturally, we are highly gratified but certain qualms arise. Have metastases already occurred? It hardly seems likely. She is a picture of health and feels wonderfully well. Will recurrence take place? This I cannot tell, but she will be re-examined from time to time. Should radium also have been used? I felt that radium would have helped had the danger of hemorrhage been present, but I believe it is true that adenocarcinoma of such a low grade is practically radio-resistant.

Many of the standard textbooks of the day teach that polyps of the colon and rectum are usually found in children. Certainly this has not been true in my own experience. I have seen but 18 polyps in children in private practice over a period of nearly six years. When these are encountered, certain minor difficulties arise. General anesthesia is usually required and, if the polyp is quite high up—that is, above the peritoneal reflection—great caution must be exercised. Breathing under general anesthesia is deep, and the sigmoid with its polyp moves up and down in an exasperating manner. But, if a small-tipped electrode is used, if the power is kept down, and if the polyp is burned beginning at the periphery, complete eradication is possible. However, it may be necessary to repeat such procedures.

Case Reports

Case 2.—One rather nerve-racking experience stands out clearly. A young girl, aged 7, was brought in by her mother, who ironically was a nurse. The child had been bleeding for six months. Examination in the office was only for about 14 cm. from the anus because of the lack of cooperation from the child. No lesion was seen. Barium enema with double contrast technic revealed a fairly large pedunculated polyp in the middle sigmoid (Figs. 4 and 5).

The mother was opposed to the abdominal approach, so with great misgivings I did the sigmoidoscopic examination and fulguration under a careful and expert general anesthetic. Recheck of the sigmoid again under anesthesia one month later showed a faint gray scar at the



FIG. 6.

FIG. 6. Biopsy specimen from Case 3—benign adenoma.



FIG. 7.

FIG. 7. Another specimen from Case 3—low-grade adenocarcinoma.

survey of rectal polyps observed during the past ten years. We, too, have found these polyps to be more common in men in the ratio of 3 to 2.

With regard to age, we found about 27 per cent occurring in the first decade of life, and about 22 per cent occurring between the ages of 40 and 50. The other cases averaged about 10 per cent in each decade up to 70 years.

While bleeding is the chief symptom which brings the patient to the doctor, bleeding, as in Dr. Brust's experience, is not always caused by the polyp but by other concomitant pathology, usually hemorrhoids, and the polyp is not infrequently found incidental to proctoscopic examination.

I feel, as Dr. Brust does, that every colonic polyp left untreated is a potential cancer. It is an established fact that malignant changes do take place in polyps of the colon and rectum; and, therefore, although these polyps may not be actually classified as malignant tumors, they must be treated as if they were such and must be completely destroyed when discovered.

It stands to reason, as Dr. Brust has told us, that every polyp removed should be carefully examined by a tumor pathologist for malignant changes. Also, all these cases should have a complete contrast enema x-ray study of the whole colon to eliminate the possibility of lesions higher up. Of course, we cannot depend on the x-rays to reveal the small sessile polyps.

Quite often, a small malignant polyp of the lower sigmoid or rectum may be a transplant of a more extensive lesion higher up in the colon. In such cases the x-ray studies will be of great value. Dr. Brust considers the treatment an office procedure. We prefer to treat these cases in the hospital, especially considering that most polyps are above the peritoneal level.

Dr. Brust objects to the electric snare and uses the unipolar fulgurating electrode instead. That

is a matter of preference. Of course, where the polyp is small and is without a pedicle, the small electrode tip is the instrument of choice. But where the polyp has a pedicle and is of some size, excellent results can be obtained with the electric snare. In our series 75 per cent of the polyps were removed with the snare. There is little danger of bleeding with the use of the snare, provided that the coagulating current and not the cutting current is used. Should there be some bleeding after snaring the polyp, the tip of the snare can be effectively used to coagulate the bleeding point. A potential danger does exist, however, in the use of the snare—perforation of the bowel wall. However, as in all other methods of surgical treatment, it is the technic and skill of the operator that determine the instrument to be used. We have successfully used the snare in removing large polyps with a base as broad as 4 cm.

In our series we had pathologic reports on 56 specimens of rectal and sigmoidal polyps. Of these, 50 were reported as benign; 5, as grade 1 malignancy; and 1 as grade 3 malignancy. The patient with the grade 3 malignancy was later found to have a large obstructing carcinomatous lesion of the pelvic colon. One of the patients with a grade 1 malignancy had a recurrence seventeen months later which had developed into an extensive carcinoma.

In conclusion, may I reiterate with Dr. Brust that

1. Every rectal or colonic polyp that is accessible should be thoroughly removed, for carcinoma is apt to follow at some future time.

2. Whenever the pathologic report of a polyp returns with a diagnosis of malignancy, a complete x-ray study of the colon should be made to rule out a malignant lesion higher up.

3. Every case of colonic polyps should have a periodic check-up for recurrence.

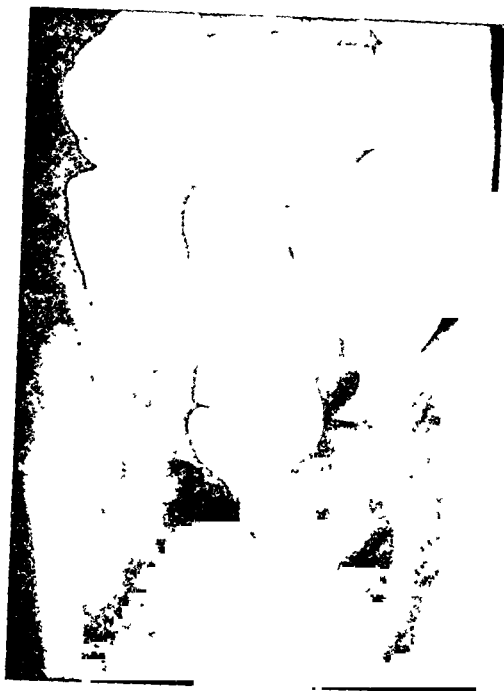


FIG. 4.

FIG. 4. Roentgenogram following barium enema on Case 2 showing no apparent lesion.



FIG. 5.

FIG. 5. Roentgenogram on Case 2 with double contrast technic revealing polyp of sigmoid.

verted table. These procedures occasionally take long periods of time, and most patients cannot be adequately treated in the knee-chest position, and I have neither the dexterity nor the strength to do this work in the Sims position.

The decision as to the treatment of a polyp in the colon above the reach of any sigmoidoscope constitutes a difficult problem. I believe that, if possible, every individual in whose rectum or sigmoid is found a polyp or polyps should have a most detailed roentgenographic examination of the colon. Certainly, the technic of double contrast as originated by Fischer has been a tremendous advance. I hesitate to state that whenever a polyp is found in the upper colon it should be removed by means of colotomy. If it is actively bleeding, by all means, yes. If it is of fair size—that is, over 2 cm. in diameter—again, yes. If the polyp is felt to be growing on repeated roentgenographic examinations, certainly. But to open a person's abdomen and colon for a small polyp that was rather accidentally discovered requires some courage. I believe such patients should be instructed as to the significance of the lesion and urgently advised to be re-examined within two months at the

most. It has been shown that many polyps benign in character may be present for years without producing symptoms and without apparently growing in size.

The answer to many of these questions rests in the last analysis with the trained pathologist. With increasing experience is said to come greater conservatism. Certainly, I never ignore pathologic findings, and yet I find myself more and more willing to undertake the destruction of extensive polypoid areas and polyps high in the sigmoid. It is true, however, that a definite middle-of-the-road course must be steered.

614 Medical Arts Building

Discussion

Dr. Alfred M. Buda, Brooklyn—Dr. Brust has given us an excellent résumé of the present-day concept of solitary polyps of the colon and rectum. He has presented his experience in treating this disease and has formulated some conclusions resulting from his five-year survey.

Those of us who do similar work will agree with practically all that Dr. Brust has said. However, different experiences in other hospitals will modify somewhat the opinions expressed by Dr. Brust.

At the Brooklyn Hospital we have made a

to have received arsphenamine just prior to the onset of symptoms. After a prolonged course in which all findings were those of aplastic anemia, the patient died with a terminal picture of leukemia, and we have no proof that the exposure to benzol had any relation to the disorder.

In addition to the difficulties instanced above, studies of clinical symptoms, signs, blood changes, and tissue findings have not revealed any significant characteristics that serve to differentiate the cryptogenic from the secondary cases even when other criteria are most decisive.

Symptoms and Signs

Presenting symptoms, enumerated in order of the frequency of their occurrence, were as follows: bleeding, weakness and fatigue, dyspnea, febrile reactions (colds, flu, grippe, chills and fever), dental symptoms, anorexia and loss of weight, pains, aches, and paresthesiae, edema of ankles and face, gastrointestinal symptoms not related to bleeding (nausea, vomiting, diarrhea and abdominal distress), soreness or ulceration of mucous membrane surfaces, blurring of vision, head symptoms (pounding, tinnitus, fainting, dizziness and headache), palpitation, pallor, joint pains or swelling, drowsiness, paralysis, reactions to medications, jaundice, glandular swelling, and nocturia.

Abnormalities noted in physical examination, enumerated similarly, were as follows: pallor, purpura, fever, systolic murmur, enlarged lymph nodes, abnormal neurologic signs, ulcers of mouth or throat, yellowish discoloration of the skin, mucous membrane bleeding, retinal hemorrhage, abnormal pulmonary signs, enlargement of the spleen, edema, enlargement of the liver, abnormal heart signs other than systolic murmur, abscess, tenderness of the sternum, atrophy of the tongue, stupor, and abdominal tenderness.

In the main, the clinical symptoms and signs presented by this series of cases are similar to those usually described. One exception must be noted, however. Rosenthal⁴ has stated that lymph nodes, liver, and spleen are not enlarged in aplastic anemia. In the present series of cases approximately 34 per cent of the patients had some degree of enlargement of lymph nodes clinically; 15 per cent had both lymph node and spleen enlargement; and 12 per cent had enlargement of lymph nodes, spleen, and liver. These clinical observations were substantiated by necropsy findings, as will be seen in Table 5.

Blood Picture

Twenty-five of the cases gave classical findings of severe anemia, leukopenia, and thrombocytopenia. Six showed anemia and leukopenia with but slight changes in thrombocyte levels. Two showed profound anemia only, and one showed anemia and thrombocytopenia with slight, but definite, leukocytosis. The anemia was of the macrocytic type in 27 per cent of the cases, normocytic in 54 per cent, and microcytic in 19 per cent.

Gastric analyses were made in 13 cases. Only one of these showed achlorhydria, and this was a patient having macrocytic anemia. Six other patients with macrocytic anemia showed normal gastric contents.

Evidence of erythrocyte regeneration was almost uniformly less than is found in similar grades of anemia of other kinds. Reticulocyte percentages varied from 0 to 2.8. They exceeded 1 in only 14 per cent of the cases. A rough correlation of the various signs of regeneration is shown in Table 2.

TABLE 2.—ERYTHROCYTE REGENERATION

	Percentage
Anisocytosis and poikilocytosis only	19
Anisocytosis, poikilocytosis, polychromatophilia, and reticulocytes less than 1 per cent	47.6
Anisocytosis, poikilocytosis, polychromatophilia, and reticulocytes more than 1 per cent	23.8
Anisocytosis, poikilocytosis, polychromatophilia, reticulocytes of variable percentage, and nucleated red cells	9.5

Systematic studies of evidence of blood destruction were not made. Serum bilirubin exceeded 0.5 mg. per hundred cubic centimeters in but one of the 18 cases in which it was estimated. Urobilinogen did not exceed the concentration represented by a positive Wallace and Diamond test of a 1 to 10 dilution in any of the 13 cases. Fragility tests in 6 cases showed normal results.

Leukocyte counts were less than 1,000 in 4 per cent of the cases; between 1,000 and 2,000 in 30 per cent; between 2,000 and 3,000 in 36 per cent; between 3,000 and 4,000 in 20 per cent; and above 4,000 in 10 per cent.

Differential counts characteristically showed deficits in all types of cells. In terms of percentage figures the majority showed lymphocytosis. However, an absolute increase in the concentration of lymphocytes was noted in only 2 cases. In 5 others the lymphocytes were within normal limits. In the remainder they varied from 1,800 to 160. Mature neutrophils were even more strikingly reduced in number. In only one case was the count normal. In the

APLASTIC ANEMIA

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THE term "aplastic anemia" as used at the present time is susceptible of various interpretations. In a recent discussion Rosenthal¹ has considered the disorder as a progressive condition of unknown cause characterized by severe anemia, leukopenia, thrombocytopenia, and acellular bone marrow. According to this description, the diagnosis is reserved exclusively for those cryptogenic cases presenting typical findings. Cryptogenic cases not conforming to this picture are segregated as atypical, and cases in which the cause can be ascertained are likewise segregated as secondary. Rhoads and Miller² have tended to broaden the use of the term considerably and to eliminate some of the need for segregation, by including in one general category cases that were regarded as fundamentally similar in nature although differing in bone marrow cellularity and occasionally in other features.

The present paper deals with 34 cases in which the findings before or after death, or both, were interpreted as those of aplastic anemia in the broader sense indicated above. Most of these were of the cryptogenic type, but secondary cases are included also. Additional cases in which some other disorder was found to masquerade as aplastic anemia are cited to illustrate diagnostic difficulties.

Etiologic Factors

The age varied from 10 months to 75 years. Only 38 per cent of the cases were under 30 years of age. This finding is at variance with the statement of Rosenthal,¹ who says that the disorder "usually occurs in individuals under 30 years of age." However, a greater proportion of cryptogenic than of secondary cases fell in the younger age group. The ratio of males to females was about equal (1.1 to 1). There was an interesting age-sex relationship (Table 1). In the age period under 50, females predominated, while in that after 50 the reverse was true.

TABLE 1.—AGE-SEX RELATIONSHIP

	Males	Females
Before puberty	2	3
Puberty to age 50	7	11
After age 50	9	2

Study of ethnic factors revealed that the disorder was partial to no special group in the community. Thirty-two subjects belonged to the white race and 2 to the Negro. Among those of white race, 12 were of British, 7 of Germanic, 5 of Polish, 5 of Italian, 2 of Jewish, and 1 of Hungarian descent.

Occupations were as follows: housewives, 10; students, 5; physicians, 2; laborer, painter, oiler, tailor, brewer, dancer, merchant, demonstrator, customs officer, lithograph artist, musician, carpenter, and farmer, 1 each; unknown or none, 4.

Of this series, 10 cases were quite definitely of the secondary type, with arsphenamine ascribed as the cause in 6 of them, and benzol in 4. The remaining 24 cases were regarded as cryptogenic, although two of the patients seemed to have toxemia of pregnancy at the onset, and one showed miliary tuberculosis terminally.

The importance of attempting to classify cases as cryptogenic or secondary is obvious for the purposes of enhancing our knowledge of underlying processes, recognizing therapeutic, industrial, and other hazards, and to some extent indicating prognosis and treatment. On the other hand, experience in the present study has led to the conclusion that such classification is by no means simple. In the first place, adequate means for making a clear-cut differentiation between the two classes are lacking. As is usually the case, the history is the deciding factor. When a history of exposure to one of the known injurious agents is elicited, the case is classed as secondary, and vice versa. How often such exposure is purely incidental or is merely the trigger mechanism setting off a latent constitutional defect, and how often we fail to elicit a history of exposure that may have been causative, are questions difficult to answer.

Some of these difficulties were encountered in this series. Patient E. K.,³ listed as a secondary case, gave a history of frequently using a shoe cleaner containing benzol. While work in industrial benzol poisoning⁴ has revealed that rather minimal exposure may at times result in severe anemia, we have no accurate knowledge as to whether the exposure in this case was truly causative or not. Also, patient E. D., described by the author and collaborators in a previous paper,⁴ was known

Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, New York, April 30, 1941.

From the Buffalo General Hospital and the University of Buffalo.



FIG. 1C.

FIG. 1C. Marrow with alternating areas of aplasia and normal or increased cellularity.

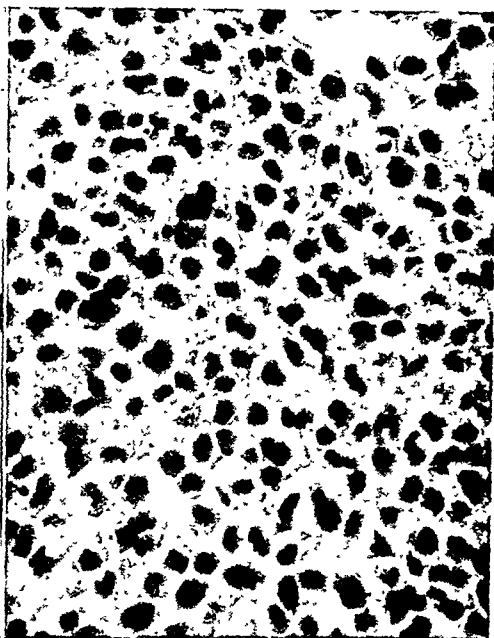


FIG. 1D.

FIG. 1D. Hyperplastic marrow.

majority of these elements were relatively small cells resembling lymphocytes. Scattered myeloblasts, myelocytes, and young nucleated red cells, usually of small size, were present. There was a noteworthy absence of myeloid cells of greater maturity than the myelocyte, and of more nearly mature normoblasts. The marrow picture presented by these cases is quite similar to that described as characteristic of aplastic anemia by many authors, and to the group of cases described by Rhoads and Miller² as "aplastic anemia with aplastic marrow" (Fig. 1A).

Eight cases showed much greater degrees of cellularity than the ones just described. For various reasons it has seemed impractical to do more than roughly estimate the cellularity. In the first place, marrow of normal subjects varies considerably in this respect, and without more accurate methods than now exist the estimate is purely a matter of judgment. Of ever greater importance is the observation that the marrow in these cases varies greatly in sections obtained from different regions. Even in the same section these cases have tended to show marked variations, with areas of increased cellularity alternating with others in which cells are greatly reduced in number.

In 2 cases (L. W. and S. R.) there seemed to be a distinct general hyperplasia (Fig. 1D), and in one (L. B.) a hypoplasia which did not reach the proportions of those relatively acellular marrows previously described. In the remainder, the degree of cellularity could not be estimated with any certainty, although the impression gained was that it was normal (Fig. 1B) or increased. The picture in some of these marrows was quite characteristic. Areas of relatively acellular marrow alternated in an entirely irregular fashion with larger and smaller areas of normal cellularity or of actual hyperplasia (Fig. 1C). The hyperplastic areas differed from one another markedly, some showing a predominance of myeloid elements, and others showing a more pronounced erythropoiesis. In each case the practically complete absence of mature nucleated cells was conspicuous. Lymphoid cells were seen in all of these cases, and, while they were more noticeable in hypoplastic areas, it was not felt that absolute increases were present. Megakaryocytes were absent or difficult to find. Plasma cell types were few and variable. Mitotic figures were more numerous in some cases than in others. In one of the cases (J. P.) the finding in the trephine specimen of a pre-

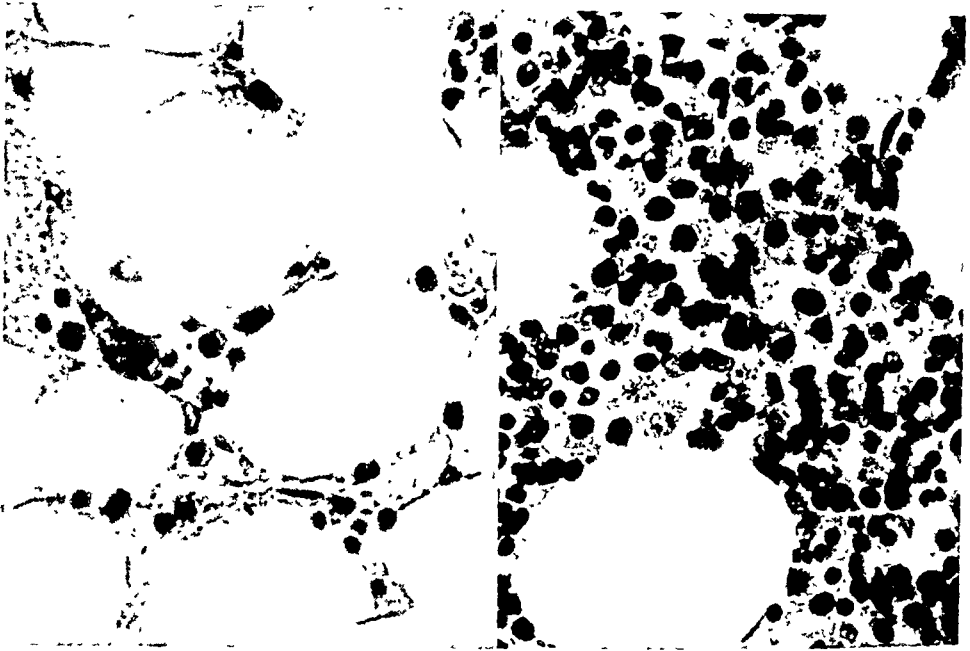


FIG. 1A.

FIG. 1B.

FIG. 1A. Aplastic marrow.

FIG. 1B. Marrow of normal cellularity.

rest they varied from 2,400 to 20. The majority of cases showed a rather marked disproportion between filament and nonfilament cells, with the latter relatively increased. Arneith indices were greatly increased. It is clear, however, that this apparent left shift is more the result of reduction in the number of filament cells than of increase in nonfilament forms. In 15 cases, juvenile cells were encountered in small numbers; and in 7 of these, myelocytes were seen also. However, only one (L. W.) showed these cells in what seemed to be significant numbers. In this case the count was as follows: immature myeloid cells, 1,000; mature myeloid cells, 120; lymphocytes, 1,600. This finding led to considerable confusion in diagnosis. Monocytes exceeded the normal in one case (J. P.) with 2,300, which finding also caused diagnostic difficulties. The remaining cases showed monocyte counts varying from 750 to 0.

Platelets were reduced in number in 94 per cent of the cases. In 82 per cent the counts were below the "critical" level of 60,000. In 2 cases they were above 200,000. It is interesting to note that all cases but one having counts below 60,000 showed bleeding symptoms, and that 2 cases with counts well above

this level showed abnormal bleeding in mild degree.

Bone Marrow

Bone marrow has been examined in 26 of the 34 cases. Marrow specimens were obtained either during life, or at postmortem examination, or both. Those taken during life were sternal biopsy specimens of either the aspiration or trephine types. Those taken postmortem were from various bones, such as sternum, rib, vertebra, and femur. While no available specimens were ignored, the ones taken from the sternum have served as the basis for study for the sake of comparison with biopsy material. In 12 cases more than one type of examination was made, and in a few instances biopsies were repeated at varying intervals.

Tissue sections from 20 cases were examined. The usual technic consisted of fixation in Zenker formalin solution, decalcification, and staining of sections with a combination of Giemsa's and Wright's stains.

Twelve of the cases showed remarkable reduction in marrow cellularity. Fatty tissue predominated, with scattered strands and small collections of nucleated elements. The

TABLE 5.—NECROPSY FINDINGS

Identification	Organs—Size			Lungs	Special	
	Liver	Spleen	Lymph nodes		Hemorrhage	Ulcers
R. P.	Enlarged	Enlarged	Enlarged	Pleuritis	Diffuse	
S. R.	Normal	Enlarged	Enlarged	Bronchopneumonia	Diffuse	
C. L.	Enlarged	Enlarged	Enlarged		Diffuse	
M. T.	Normal	Small	Normal		Diffuse	
C. G.	Normal	Normal	Normal	Bronchopneumonia	Diffuse	Mouth and sternum
D. S.	Normal	Small	Normal	Bronchopneumonia	Diffuse	
J. Z.	Enlarged	Normal	Normal	Hemorrhage	Diffuse	
L. H.	Normal	Small	Normal			Vulva
J. P.	Enlarged	Enlarged	Normal	Bronchopneumonia	Diffuse	Mouth
A. H.	Normal	Small	Enlarged	Pleuritis		
L. W.	Normal	Small		Bronchopneumonia		
P. S.	Normal	Small	Enlarged	Bronchopneumonia	Diffuse	
A. G.	Normal	Normal	Normal	Bronchopneumonia	Cerebral	
N. C.	Normal	Enlarged	Normal		Cerebral	

H. B., and L. W.) were in cases of relatively rich marrow cellularity as seen in the sections. The total nucleated cell counts, while tending to be slightly higher than in the preceding group, did not attain levels that the marrow cellularity would seem to justify. This lack of correlation between the cellularity of aspirated samples and of tissue sections would seem at first glance to nullify the importance of studies of the former, and to support the contention of those (Scott⁶) who claim that counts of total nucleated cells are unreliable. However, somewhat similar results have been obtained in most cases of neutropenia, in occasional cases of leukemia, and in other types of anemia where despite rich marrow cellularity a degree of so-called maturation arrest occurs. It seems possible that the number of cells aspirated may be related to the amount of maturation.

General Findings at Necropsy

Postmortem examinations were made in 14 cases (see Table 5). Bone marrow findings have been described previously. The findings in other organs related to the hemopoietic system varied greatly. The liver was found enlarged in 4 cases. In each case this organ was pale and showed fatty changes. In several instances there was hemosiderosis, and in some a certain amount of focal necrosis.

The spleen was enlarged in 5 cases, although this feature was outstanding in but two. In 6 cases the spleen was smaller than normal. Recent infarction was found twice, hemosiderosis several times, and intrasplenic venous thrombosis once. Reticulum changes of varying degree were present in most of the cases. Lymph nodes were noticeably enlarged in one or more regions of the body in 5 cases. Deep-red, so-called hemolymph, nodes were conspicuous in several. Lymph node markings were normal in all cases.

Findings in other organs were extremely variable. Bronchopneumonia was present in

7 cases, and pleuritis in 2 others. In 10 cases diffuse hemorrhagic phenomena were present, and in 3 these seemed to be the most pronounced terminal features. In 3 cases ulcerative lesions, with or without sepsis, were present. However, in but 1 case was the ulcerative lesion the most conspicuous feature.

Treatment

The treatment employed in this series of cases varied greatly, and usually several measures were used at the same time in such a way as to preclude scientific evaluation of results. Of some fourteen measures (blood transfusion, intramuscular blood, iron, liver products, vitamins, yellow bone marrow, pentose nucleotide, x-ray, ultraviolet light, splenectomy, endoglobin, uterine curettage, sulfonamide drugs, and bone marrow transfusion), only blood transfusion was used throughout the series.

Despite the difficulty in evaluating results, observations of individual cases have led to the feeling that transfusion has occasionally been instrumental in prolonging life until a remission occurs. An attempt was made to learn the value of transfusion. Fourteen cases treated previous to January 1, 1938, received relatively infrequent transfusions (average of 1 transfusion in 7.8 weeks) while 20 cases treated after that date received an average of 1 transfusion in 4.9 weeks. The average survival periods for the two groups were 34.3 and 40.9 weeks, respectively, an increase of some six weeks. However, other methods of comparison lead to a certain amount of doubt as to whether this widely accepted therapeutic measure actually does prolong life noticeably.

Bone marrow transfusion as suggested by Morrison and Samwick⁷ was done in 4 cases. There was no evidence of beneficial results in any of them.

Clinical Course and Prognosis

The clinical course has been extremely variable. Five cases ran acute courses of from

TABLE 3.—BONE MARROW ASPIRATION

Identification	Total Nucleated Cells per cu. mm.	Immature Myeloid Cells		Mature Myeloid Cells		Lymphoid Cells		Misc. Cells		Nucleated R.B.C.	
		Per-centage	per cu. mm.	Per-centage	per cu. mm.	Per-centage	per cu. mm.	Per-centage	per cu. mm.	Per-centage	per cu. mm.
F. P.	1,500										
D. S.	2,400	6	90	3	45	26	390	33	495	32	480
C. L.	3,500			4	98	64	1,536	32	768		
C. G.	5,100			7	620	61	2,735	21	735		
W. S.	5,200	3	153	18	357	83	4,233	6	306	1	51
V. S.	6,000	27	1,404	10	520	33	3,200	8	480	9	463
N. B.	6,100	4	240	1	60	36	1,716	21	1,092	1	60
B. R.	6,800	5	305	8	488	28	5,160	8	480	1	420
E. K.	7,000	18	1,224	8	544	37	1,708	22	1,342	37	2,257
H. B.	8,400	28	1,820	32	2,240	23	2,516	21	1,428	16	1,083
L. W.	10,000	12	1,008	2	168	28	1,610	13	910	6	420
A. D.	28,000	39	3,900	7	700	22	2,352	17	1,448	41	3,444
L. M.	32,000	38	10,640	11	3,080	31	2,200	13	1,300	19	1,900
Average	9,400	30	9,600	10	3,200	22	8,680	7	1,960	13	3,640
		16	2,300	9.3	900	41.8	7,040	18	5,800	20	6,400
							3,200	17.8	1,400	15	1,600

TABLE 4.—BONE MARROW ASPIRATION (NORMAL SUBJECTS)

Identification	Total Nucleated Cells per cu. mm.	Immature Myeloid Cells		Mature Myeloid Cells		Lymphoid Cells		Misc. Cells		Nucleated R.B.C.	
		Per-centage	per cu. mm.	Per-centage	per cu. mm.	Per-centage	per cu. mm.	Per-centage	per cu. mm.	Per-centage	per cu. mm.
Lowest*	39,000	15	5,850	43	16,770	25	9,750	10	3,900	7	2,730
Highest	79,000	30	23,700	37	16,770	17	13,430	8	4,740	10	9,900
Average	59,000	27.3	17,200	59.2	22,600	18	8,800	9	5,300	8.5	5,400

* The terms *lowest* and *highest* refer to total nucleated cell counts only.

dominance of cells resembling monocytes could not be corroborated at necropsy.

These findings in sectioned marrow tissue may be summarized as follows. The majority of cases have shown marked reduction in cellularity throughout. The remainder have shown degrees of cellularity varying from definite hypoplasia to hyperplasia. In the relatively hyperplastic marrow a marked irregularity has usually been noted, with areas of hypoplastic and hyperplastic tissue alternating. The constant finding in all cases has been the almost complete absence of mature myeloid and normoblastic elements.

Aspirated sternal marrow was examined in 15 cases, in 13 of which a uniform technic was employed. Exactly 3 cc. were withdrawn from the body of the sternum and placed in a bottle containing an oxalate mixture in a dry state.⁵ After thorough mixing, films were prepared and enumeration of total nucleated cells made. The films were stained with Wright's stain and differential counts were made. The results are shown in Table 3, and results of control studies on normal subjects in Table 4.

It will be noted that the various types of cells are grouped under 5 headings: (1) immature myeloid cells, including those easily identified as myeloblasts, myelocytes, and juveniles; (2) mature myeloid cells including band (stab) and filament polynuclears; (3) lymphoid cells including all cells resembling

lymphocytes; (4) miscellaneous cells, including monocytes, plasma cells, reticulum cells, unidentified cells, disintegrated cells, etc.; (5) nucleated red cells. This grouping was adopted for the purpose of simplifying interpretation and of avoiding, as far as possible, confusion regarding controversial terminology and cell identification.

Comparisons of the average absolute counts in the two tables will show a pronounced deficit, not only in the total cellular content, but also in each of the cell groups. Practically all of the individual cases exhibited this deficit throughout the groups, although in varying degrees. In one case (L. M.) the numbers of miscellaneous and of nucleated red cells actually exceeded the average of those groups in normal subjects. This was a case of chronic anemia following exposure to benzol. In the same case the number of immature myeloid elements exceeded the lowest count found in normal subjects. In another case (A. D.) this was true for immature myeloid and nucleated red cells, and in still another (H. B.) it was true for nucleated red cells.

In 7 cases it was possible to compare the results of studies of aspirated marrow with those of tissue sections. Four of these (C. L., C. G., V. S., and B. R.) were in the group previously shown to have aplastic marrow. All of these showed total nucleated cell counts below 7,000, corresponding roughly to what might be expected. The other three (N. B.,

of distribution of all types of blood elements. It is probable that in some cases this failure of maturation may be the only abnormality, although varying degrees of actual tissue damage, at least in the bone marrow, may result also. Only on some such basis as this is it possible to explain the variable clinical picture, course, and prognosis, and the blood changes and tissue findings.

This view is supported by the observations that all variations can be found in cases due to definite hemopoietic poisons, such as arsenicals and benzol, and that such cases do not differ in any major respect, except possibly that of prognosis, from those cases in which the cause is undetermined.

The present study has shown that the disorder can occur at any age, in either sex, and in a variety of racial and vocational groups.

The clinical findings include symptoms and signs of anemia, hemorrhagic disease, and less commonly of ulcerative processes. In addition, febrile reactions and gastrointestinal disturbances are very common. Of unusual interest in this group was the comparatively frequent finding of lymph node, splenic, and hepatic enlargement.

With few exceptions the cases exhibited the classical triad of blood findings—severe anemia, leukopenia, and thrombocytopenia. The anemia was of the normocytic orthochromic type in only slightly more than half of the cases. Minimal signs of regenerative activity were found in the blood, and signs of excessive blood destruction were not observed. A leukopenia of less than 3,000 was found in 70 per cent of the cases. This leukopenia, in most cases, was the result of absolute deficit in all types of cells, and not simply a neutropenia. Immature cells in small numbers were encountered in a minority of the cases. Thrombocytopenia was almost, but not quite, a constant finding, and while the presence or absence of hemorrhagic symptoms usually seemed to depend upon whether the number of platelets was below or above the so-called "critical" level, this was not always true.

Bone marrow, as observed in sectioned tissue, varied from extreme hypoplasia to actual hyperplasia. A common finding was an irregular distribution of elements with islands of hyperplasia alternating with those of hypoplasia. The constant abnormality was the relative paucity of mature cells, interpreted as evidence of maturation arrest.

Aspirated marrow examined by a standard technic showed a remarkable deficit of nucleated cells, in which all of the main cell group-

ings took part. This lack of cellularity did not always correspond with the degree of cellularity observed in sections, and it is hypothesized that this is explained by the lack of more mature and easily dislodged elements. At any rate, it is believed that the findings in aspirated marrow are often of greater diagnostic value than those in tissue sections.

Postmortem findings in most of the cases were essentially those of profound anemia, hemorrhagic diathesis, and terminal infection. A few ulcerative and associated septic lesions were encountered.

There was no evidence that any type of treatment exerted a specific effect. Transfusion of blood was thought to be the most effective supportive measure, and there is reason to believe that frequent use of this measure may prolong life, and, in certain instances, actually preserve life until spontaneous recovery occurs. The use of bone marrow transfusion in a few cases did not seem to alter the course of the disease.

A few cases recovered entirely. In the great majority, death resulted in from a few weeks to about thirty-three months. There was no sharp dividing line to distinguish acute from chronic cases, except the duration of the disease.

Diagnosis has been found to be difficult, since some cases have failed to exhibit characteristic findings during life, and other conditions have been found to masquerade as aplastic anemia. A few instances where leukemic changes have appeared as terminal events in otherwise classical aplastic anemia raise the question of whether such changes may not be the result of some compensatory mechanism.

Conclusion

Aplastic anemia may be regarded at the present time as a disorder of varied manifestations, in which the fundamental defect is one of general hemopoietic insufficiency, varying from inhibition of normal cell maturation and distribution to actual hypoplastic changes.

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two to four weeks, after which improvement began and was followed by complete recovery. These patients have been observed for periods of from thirteen months to eight and a half years without evidence of recurrence being noted. In a small proportion of cases the disorder was rapidly progressive, with death occurring in from twenty days to a few weeks after the onset. In the majority, the disorder was gradually progressive with partial remissions after one or several transfusions. In these cases the duration of the illness varied from three to thirty-three months before death resulted.

The results as of April 30, 1941, were as follows: complete recovery, 15 per cent; death, 73 per cent; pending, 12 per cent. There is fair reason to expect that in this group of patients the final mortality rate will be 85 per cent.

In order to study the prognosis from the standpoint of causative agents, the cases in which the final outcome was known were classified tentatively in four groups, namely: cryptogenic, in which no possible cause was found; arsphenamine; benzol; and miscellaneous, in which pregnancy toxemia and military tuberculosis were noted. The results are noted in Table 6.

TABLE 6.—PROGNOSIS AS RELATED TO CAUSATIVE FACTORS

	No. of Cases	Percentage Fatal	Percentage Recovered
Cryptogenic	18	89	11
Arsphenamine	6	67	33
Benzol	2	100	
Miscellaneous	4	50	50

Naturally one could hardly be permitted to draw far-reaching conclusions from the small number of cases represented, especially since the classification is subject to criticism as mentioned earlier. However, the results certainly indicate an extremely high mortality for the series as a whole, and, in line with the results of numerous other workers, a somewhat better prognosis in secondary cases than in strictly cryptogenic cases.

Diagnosis

Experiences of the writer have led him to agree with such writers as Dameshek,⁸ who say that the diagnosis of aplastic anemia is a difficult one. This is especially true if the period of observation of the case is relatively short. While the majority of the individual cases have fallen into a pattern of almost monotonous uniformity, as far as most of the criteria are concerned, there were several that

failed to conform to it. In addition, several cases have been encountered that showed the essential characteristics of this disorder, only to have the diagnosis disproved by subsequent events.

In the present study the cases tended to group themselves in three categories: (1) early findings suggested aplastic anemia, and subsequent events substantiated the diagnosis; (2) early findings suggested aplastic anemia, and subsequent events tended to disprove the diagnosis; (3) early findings did not suggest aplastic anemia, but subsequent events tended to make that diagnosis fairly definite.

The first category represents cases that were typical throughout and requires no further comment. Cases falling in the second category were of two types. The first consisted of cases later found definitely to have some other disease masked as aplastic anemia. The second consisted of cases more difficult to interpret. They are cases that ran prolonged courses in which all findings, including bone marrow abnormalities, were typical of aplastic anemia, and the terminal stage and necropsy findings were those of acute leukemia. While such cases, too, may be interpreted as leukopenic leukemia masked as aplastic anemia, it is possible that the leukemia developed as a sort of compensatory reaction to long continued bone marrow insufficiency. Such cases have been described and are summarized by Hunter.³ The present author, together with Terplan and Sanes, has reported one case in this category.⁴ The cases of the third category showed characteristics that tended to confuse the diagnosis. In some the clinical, blood, or bone marrow findings were not typical of aplastic anemia, i.e., leukopenia or thrombocytopenia might be absent, or the character of circulating and bone marrow cells suggested leukemia. In one case the findings were strikingly similar to those in pernicious anemia. In all of these cases terminal events and necropsy findings revealed evidence of aplastic anemia.

Summary and Comment

The results of this study lead the author to incline toward the view that the disorder spoken of as aplastic anemia should not be too strictly defined as characterized by any set of clinical or pathological criteria. It seems more likely that it should be regarded somewhat broadly as a defect of the entire hemopoietic apparatus, in which the principal abnormality is inhibition of maturation, and consequently

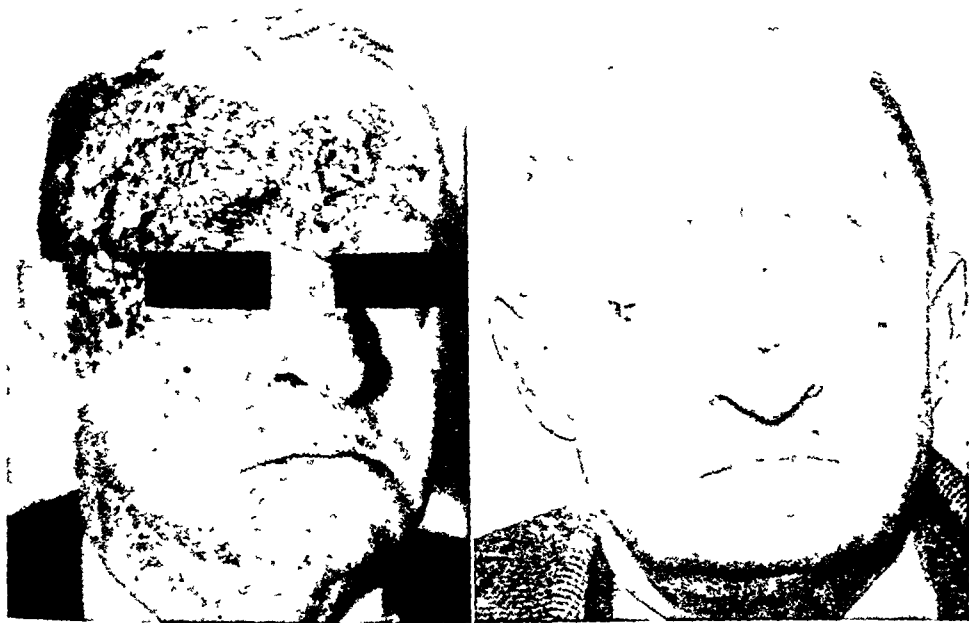


FIG. 1. Basal cell epithelioma of scalp with bone involvement, treated by two courses of x-rays of 165 kv. 4 ma. at 50 cm. distance, with 0.25 mm. copper and 1 mm. aluminum filter, 300 r daily for eight days—total, 4,800 r. Right hds temporarily sutured

cutaneous cancer, and most of these are needless. These cancers, theoretically at least, could have been prevented in every instance. Also, early diagnosis and proper treatment probably would have cured all of these cancers.

Hence the importance of prophylaxis, of early diagnosis, and of wider dissemination of knowledge on this subject.

Summary.—preventive treatment is based on an understanding of the pathogenesis of skin cancer. Preventive treatment consists of: (1) avoidance of habitual excessive exposure to sunlight, especially by persons who have fair skins; (2) maintenance of a healthy, youthful skin by adequate, nutritious diet and good general health; and (3) early and prophylactic removal of moles, warts, cysts, and other precancerous lesions.

Biopsy

In each instance in which skin cancer is suspected, a specimen of tissue should be removed for pathological examination. Biopsies can practically always be done without noticeable scarring, and it is now generally agreed by pathologists that such a procedure is safe.

The biopsy punch is an objectionable, outmoded instrument that conflicts with the tenets of good plastic surgery. For instance,

if one is to avoid noticeable scarring, an incision should be at least three times as long as it is wide, and the long axis of the incision should be in the direction of the lines of tension in the skin. Therefore, those who wish to do biopsies with a minimum of scarring should discard the biopsy punch if they have not already done so, and instead use a scalpel (Bard-Parker #15). Such incisions should be carefully closed with interrupted fine silk sutures which should be removed after four or five days.

For the treatment of unusually small lesions of a few millimeters' width, "biopsy excision" is good practice. This means excision for pathologic examination of the whole lesion, and a margin around it ample enough to include any outlying parts of the growth.

Whether it is safe to do biopsies on melanoma, or on lesions suspected of being melanoma, is a question upon which there is some disagreement. We personally believe that it is a safe and legitimate procedure. We have discussed this subject with several outstanding cancer pathologists and cancer surgeons. Their opinions were divided. About half were vehemently opposed to doing biopsies on melanoma, whereas the other half confidently approved them. None had ever seen any metastases that could be ascribed to doing such a biopsy, but the surgeons in particular

MODERN TREATMENT OF SKIN CANCER

GEORGE C. ANDREWS, M.D., and MAURICE C. BARNES, M.D., New York City

PRESENT-DAY preventive treatment of cancer of the skin has reached a high degree of efficacy. It is based upon information gleaned from clinical studies of the pathogenesis of skin cancer. A fact often not recognized is that such clinical studies have been, as a whole, more productive than laboratory research and have formed bases for most laboratory investigations of the causes of cancer.

The predisposition of certain types of skin to the development of cancer has been established by clinical observation. Likewise by clinical studies, the influence of heredity on skin cancer has been clearly demonstrated. That we as individuals tend to inherit the same kinds of skin our parents possessed, and that fair skins are more likely to develop cancer than brunette skins, are facts well known. Also, there is probably no fact regarding the cause of cancer better established beyond question or doubt than that habitual actinic exposure causes skin cancer in certain types of skin under certain conditions. Purely clinical observation has fully established this well-known and important fact, which has also been confirmed by many laboratory experiments on animals.

Exposure to sunlight seems to increase the maturity of all living things. For instance, a plant which is grown in a dark cellar will grow large but does not flower until it is placed in the sunshine. On the other hand, consider the early age at which children mature in the tropics. These examples may illustrate the effect of habitual actinic exposure upon the cells of fair, sensitive skins. The life cycles of such cells apparently are speeded up and the exposed skin ages prematurely. Cancer is a disease of old age, but old age is a biologic—not a chronologic—fact, and all parts of the body do not age uniformly. Some relatively young people have old arteries, whereas others have prematurely old skins, and still other people have in their seventies skins which appear youthful.

In all normal people there exists a mechanism of protection against the injurious effects of excessive actinic exposure. This does not seem to be simply a matter of quantity of pigment. In addition to the quantity of pigment, there appear to us to be some further

protective forces, possibly of the nature of enzymes. Some children born of consanguineous marriages lack this protective mechanism. These unfortunate individuals develop senility of the skin during childhood (xeroderma pigmentosum), and usually die of skin cancer before reaching adult life.

One-third of all skin cancers occur on the nose, and this may be due at least in part to the large amount of sunlight the nose receives. Cancer of the lower lip can be traced in practically all instances to habitual exposure to sunlight, with resultant actinic cheilitis. Smoking plays a questionable role. The male-sex incidence of lip cancer, like the female-sex incidence of mammary cancer, is not as yet explained.

As Ewing has repeatedly pointed out, and as we believe largely from clinical observations, there probably is no single cause of cancer, and cancer is not as simple as a cause-effect reaction. Cancer is a process that arises under a certain group of favorable conditions. In the case of skin cancer, the chief conditions are maturity, fair skin, and habitual actinic exposure.

And the likelihood of cancer is augmented if in addition there are moles, warts, or other so-called precancerous lesions present, and by contact, occupationally or otherwise, with pitch, tar, paraffin, lubricating oils, or other hydrocarbons containing dibenzanthracene or similar carcinogenic substances. It is interesting that these have chemical formulas similar to those of the estrogenic hormones, which also are potent stimulants of cell growth. Rhoads³ and his coworkers have shown in animal experiments that nutritional deficiencies, particularly of vitamins, play some sort of etiologic role in some cancers. It appears that animals on adequate diets have the power to neutralize certain carcinogens, whereas those on deficient diets fail to neutralize such carcinogenic substances and so develop cancer.

It is truly stated that skin cancer is a preventable disease. General cognizance of the group of factors which favor the development of malignant growths of the skin will do much to decrease still further the number of deaths from these annually. The list of precancerous lesions is now common knowledge and we shall not reiterate. There are over three thousand deaths in the United States annually from

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The size of the dose may be changed slightly for the individual case. As a rule young people require slightly smaller doses and very old people slightly larger doses than the standards which we have recommended. If preferred, the same doses may be given daily for eight days instead of semiweekly for four weeks. Also, a 3-mm. aluminum filter can be used at 135 kv., giving 600 r daily for eight days—a total of 4,800 r. Unfortunately the histologic structure of the particular squamous cell epithelioma does not assist much in making a determination of the size of the dose.

Squamous cell epitheliomas on other portions of the skin surface, including the cheeks, ears, and scalp, should be excised surgically. This is usually a simple operation which can be done in the office under local anesthesia. Squamous cell epithelioma on the hands should generally be excised, but there are exceptions. The warty, nonulcerated, small epitheliomas, sometimes called hornifying papillomas, that occur in senility on the dorsa of the hands, are not serious and are easily cured by x-ray treatment. A single dose of 1,600 to 2,000 r is usually sufficient. On the other hand, one may encounter advanced ulcerated epithelioma on the dorsal surface of the hand, or on a finger, that requires major surgical care and dissection of the axilla.

The electric cutting current has a special field of usefulness in the treatment of some epitheliomas that arise in chronic radiodermatitis, especially those located on the nose, chin, or anterior chest, where the skin is atrophic and hidebound. An electrode shaped like a hockey stick has been extremely useful to us in such cases, and the healing and cosmetic results have been splendid. Electrosurgery often makes it unnecessary in such instances for the patient to undergo tedious and expensive surgical care.

In New York City the treatment of carcinoma of the lips, penis, vulva, and of other mucocutaneous junctions is not generally undertaken by dermatologists. We realize that in some parts of the country other practices prevail and that the dermatologist may obtain splendid results by x-ray and radium therapy in these cancers. However, in the enormous medical centers in New York the practice of physicians is highly specialized, and cancers of these parts of the body are treated largely by the surgical staffs, with occasional recourse to the radiotherapy department.

We should like to mention, furthermore, the value of liver extract injections and of

nicotinic acid therapy as supplementary measures in the treatment of oral precancerous conditions.

Basal Cell Epithelioma.—Basal cell epithelioma is chiefly treated by the use of x-rays, although when the lesions are small and in favorable locations, excision is preferred. The x-ray treatment which was recommended for squamous cell growths on the nose is applied to basal cell epitheliomas and mixed cell epitheliomas not only on the nose but in practically all other areas. Total doses of 6,000 r, to 8,000 r, as previously described, divided into two treatments a week for three or four weeks, usually the latter, are recommended, and even higher amounts can under certain conditions be safely and effectively given. We also use with success the divided high voltage technic, along the lines recommended by the Martins,¹ and we favor this method where the infiltration is deep. With this technic at 165 kv. 4 ma. at 50 cm. distance and a filtration of 0.25 mm. copper and 1 mm. aluminum, the erythema dose is a little under 600 r. We give 300 r daily for eight days, exclusive of Sunday, and two weeks after this first course of 2,400 r we give a similar second course. This makes the total dose 4,800 r, which is theoretically a little low but has been adequate in most of the cases we have thus far treated. A third course can be given without entailing hazard if it is necessary. The skin reaction to this high-voltage divided-dose method is inconspicuous, and has consisted simply of a vivid erythema that appears about a week after the first course and persists with minor variations until three or four weeks after the second course.

X-ray Technic

In 1936 Braestrup and one of the present writers (Andrews)² reported studies of depth-dosage measurements in the skin at distances of millimeters beneath the surface. At that time we pointed out that the ideal radiation for treatment of skin lesions was theoretically a homogeneous beam of about 0.9 angstrom, of which about 87 per cent would be absorbed in the first centimeter of tissue. We recommended at that time a change from the then standard technic of 90 to 100 kv. to lower voltages such as 50 to 60 kv., and the use of a filter of 2 mm. aluminum, so as to obtain a fairly uniform beam of about 0.9 angstrom. We are gratified that recent tendencies have been along the lines suggested, and are still convinced that our recommendations were sound. Keeping in mind that even skin

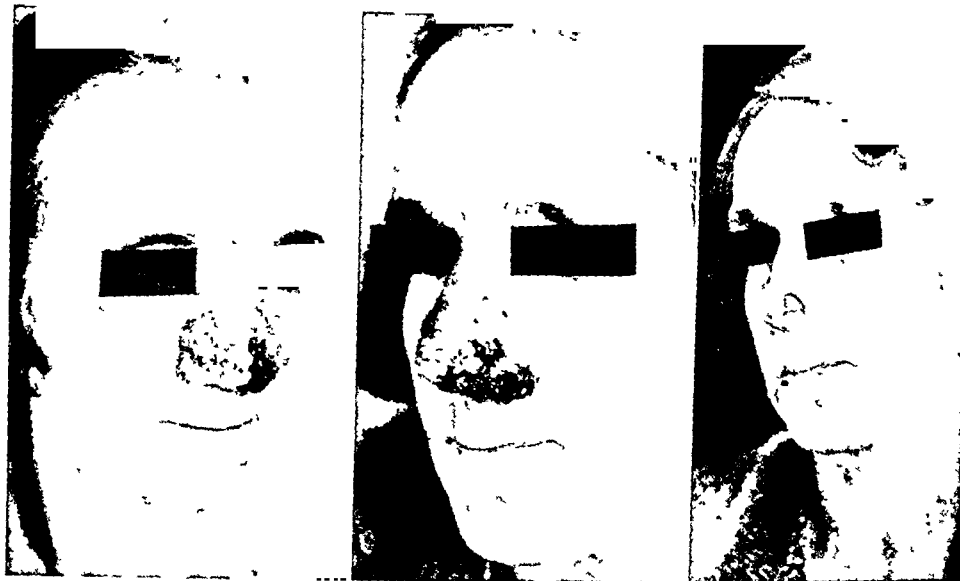


FIG. 2. Basal cell epithelioma of nose before and after treatment with divided-dose x-ray as described in legend under Fig. 1.

seemed to fear dire results, which opinion was not generally shared by the pathologists.

Treatment

Having fully established the character of the growth by clinical diagnosis confirmed by pathologic examination, we are prepared to plan the treatment. In general, this is surgical excision for squamous cell carcinomas, and x-ray treatment for basal cell carcinomas. For melanomas, radical surgical removal is the only treatment. Radium treatment of skin cancer has been largely discarded in our clinic. The use of the so-called electric cutting current for the removal of skin cancer by electro-surgery has value in selected cases.

Squamous Cell Epithelioma.—Treatment of squamous cell epithelioma is particularly influenced by the location of the lesion. Those which arise upon the nose or midportions of the face, although numerically common, are not likely to metastasize and, although they have great tendency to recur locally, are relatively less malignant than those which arise on other parts of the integument. The nose is a difficult place for plastic surgery, and excision of epithelioma from the nose is generally a difficult job that may involve months of disfigurement and disability for the patient. For these reasons, and because x-ray treatment effectively cures such cancers, it is the preferred method.

The x-ray dosage is influenced somewhat by

the size of the lesion and the age of the patient but in general is 1,000 r twice a week for four weeks, making a total of 8,000 r, using 65 kv. 20 ma. at 14 cm. distance with 1 mm. of aluminum filter in a modern shockproof machine, with oil-immersed Machlett tube. An ample ring of tissue is exposed beyond the visible margin of the tumor, generally as wide as the diameter of the lesion itself. If this low voltage technic is not feasible because your x-ray apparatus is not adapted to it, nearly as good results can be obtained by using 100 kv. 3 ma at 20 cm. (8 in.) distance with a broad-focus Coolidge tube unfiltered, which was the standard setup before the shockproof equipment was developed. With this old Coolidge tube unfiltered technic at 100 kv., one should give 750 r twice a week for four weeks, making a total of 6,000 r.

The reaction in and about the epithelioma from this intensive treatment is surprisingly small and consists for the most part of a dull erythema and a drying up of the lesion that becomes noticeable after the third treatment. The reaction gradually becomes more vivid, and during the fourth week of treatment, and the week following, there is a superficial ulceration which requires a dressing. This ulceration rapidly heals and the reaction promptly disappears, concomitantly with the involution and disappearance of the tumor, so that the whole process is finished within three weeks after the last treatment.

CONTACT DERMATOSES

IRVING SWARTZ, M.D., Syracuse, New York

CONTACT dermatitis is another of the many skin conditions rescued from the grab bag of the all-inclusive term eczema. At present it appears to be among the most interesting to the physician, because it stimulates his curiosity as a detective, and because of the satisfaction that the solution of the problem gives to the patient and himself.

Contact dermatitis is an inflammation of the skin brought about by the action of animal, vegetable, or mineral substances on the skin surface. The irritants may be primary irritants that produce inflammation on any skin. Or they may be substances that are usually nonirritating to normal skins but produce dermatitis in sensitized skins. We are concerned here with the dermatoses that develop from this secondary group. The offending agents are innumerable and an excellent list appears in Weber's article.¹ The dermatitis can occur on any part of the body, from the scalp—as with injury from a hair lotion—to the feet, as with injury from the dye or leather in shoes.

The greater number of cases occur on the exposed areas of the body, as the head, neck, arms, and legs; and these are easier to diagnose. The unexposed areas may also be involved, and these cases may be a bit more puzzling until the solution strikes one. The problem of solution puzzled one physician consulted about a concentric dermatitis on the buttocks of a child. The usual therapy did not have much effect. Observing the child's buttocks from a distance one day, he asked the mother whether there was a new toilet seat in the home. Yes, there was a recently painted toilet seat—and so another mystery was solved.

Among the commoner substances which may produce a contact dermatitis or dermatitis venenata are: poison ivy, oak, and sumac; the geranium, the primrose, the ragweeds, resorcin, quinine, mercury, novocain, butyn, orris root, and that very common dye, paraphenyldiamine. Any tree, weed, or plant may be incriminated. Sulfur, Whitfield's ointment, and adhesive tape are frequently at fault. Schwartz and Tulipan² state that the majority of occupational contact dermatoses reported in the United States are caused by

alkalies, oils, solvents, dyes, poisonous plants, and acids.

In going over my own records, I found the following substances, in the order of frequency here shown, to be the causative factors in cases of contact dermatitis or dermatitis venenata: poison ivy and related plants, alkali soaps, orris root face powders, mercury, sulfur, paraphenyldiamine (in furs, dresses, and hair dyes), Whitfield's ointment, adhesive plaster, cements, nickel, novocain, mercury and iodine forming mercuric iodide. Substances infrequently producing dermatoses were: resinol salve, D.D.D. liquid, lysol, noxema, phosphorus, pyrethrum, gas cleaning fluid, carbon typewriter paper, Japanese lily, mango plant, Oakite liquid cleanser, rubber, wool, paint.

Diagnosis

The diagnosis of contact dermatitis is made from the very sudden onset of a severe itching or burning dermatitis, varying from a simple erythema to papule, vesicle, pustule, and gangrene formation. The exposed parts of the body are affected more commonly. A careful history of contacts is very important and that alone may be sufficient at times for making the diagnosis. The history must include the time of onset, whether at work or at home or following a vacation, and information as to use of new cosmetics, plants in the home, animal pets, use of insecticides, hobbies. Repeated talks may be necessary. The patient may mull over in his mind what things have been disturbing him with itching, for example, and suddenly strike on the right substance as the irritant contact. An important aid in confirming the diagnosis is the epidermal patch test.

In the differential diagnosis an exudative neurodermatitis must be excluded. This condition does not show vesicles and is more inclined to be patchy. The intense edema of the eyelids and genitalia seen in a contact dermatitis is not seen in neurodermatitis. The eyelids are not involved as a rule in neurodermatitis or atopic dermatitis.

Patch Test

The patch test is an epidermal sensitivity test. The test is an attempt to reproduce on

¹Read at the Annual Meeting of the Medical Society of the State of New York, Buffalo, April 30, 1941.

tumors do not usually extend more than 2 cm. in depth and that most dermatoses do not go deeper than 1 cm., it is obviously desirable for dermatologists to use a quality of radiation which produces absorption relatively less in the depths, and more in the lesion itself. It is generally agreed that the biological effects of x-rays on a tumor are due solely to the quantity of energy absorbed in the area of the tumor. This principle must be the basis for x-ray therapy if we are to obtain the maximum benefits from its use.

It is desirable that the absorption of the radiation be evenly distributed throughout the tumor area. According to our studies, the quality of radiation produced by 50 to 60 kv. and a filter of about 1.5 mm. aluminum is much more homogeneously absorbed throughout the first 2 cm. of tissue than the radiation produced by 100 kv. unfiltered.

The divided-dose technic aims to maintain a saturation dosage over a period of several weeks, and thereby to irradiate abnormal radiosensitive cells with a heavy lethal dose during their mitotic periods, in which they are particularly susceptible. This sound plan of dosage, combined with the use of a quality of radiation which is absorbed almost wholly within and relatively evenly throughout the area of the tumor, forms the modern x-ray treatment of cutaneous cancer.

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Discussion

Dr. Paul E. Bechet, *New York City*—Dr. Andrews has presented an excellent paper, and the results of treatment in severe and extensive epitheliomata as shown on the screen are very satisfactory, but it would seem to me that as regards smaller lesions, particularly of the infiltrated type, with raised and almost sclerosed borders, it would be better to destroy them first with electrocoagulation, followed by thorough curettage of the whole softened mass, then desiccation of the surface, and the administration of a single dose of unfiltered x-ray, using the broad-focus Coolidge tube at 100 kv., giving 900 to a top of 1,200 r. I have used this method for some seventeen years with extremely satisfactory results, both from a cosmetic point of view and permanence of cure.

About twelve years ago I treated a patient who had a large basal-prickle cell epithelioma on the forehead, about 6 cu. mm. in diameter. The mixture of two types was proved histologically. Under local anesthesia the lesion was electrocoagulated, then thoroughly curetted, the surface desiccated with a strong spark, and 1,200 r of unfiltered x-rays given, all at the same time. I saw this patient a few months ago and she was still well after twelve years. The scar was smooth, soft, and pliable.

AMERICAN DIABETES ASSOCIATION TO MEET

The second annual meeting of the American Diabetes Association will take place on Sunday, June 7, at Haddon Hall in Atlantic City.

The morning session will begin at 9 o'clock and will include a business meeting, a presidential address, and a round-table discussion. The chairman of the discussion committee is Herman O. Mosenthal, M.D., and the members are Charles H. Best, M.D.; Joseph H. Barack, M.D.; Edward S. Dillon, M.D.; and Elliott P. Joslin, M.D. There will also be an educational film on diabetes, from the Medical Society of the State of Pennsylvania.

The afternoon scientific session will begin at 2:00 P.M. and is as follows: "Action of Insulin" by Franklin B. Peck, M.D.; "The Diabetic in the Defense Program," by Joseph T. Beard-

wood, Jr., M.D.; "Endocrine Control of Carbohydrate Metabolism in Relation to Human Diabetes," by C. N. H. Long, M.D.; "The Storage and Significance of Tissue Glycogen in Health and Disease," by Samuel Soskin, M.D.; "Acidosis," by Eaton M. MacKay, M.D.; "Hypoglycemic Reactions," by Harold E. Himwich, M.D.

If time permits, the following papers will also be read: "Insulin Atrophies," by Alexander Marble, M.D.; "Vitamins and Diabetes," by Julian M. Freston, M.D., and Winifred C. Loughlin, M.D.

The evening session, at 7:00 P.M., will begin with dinner, followed by the Banting Memorial Lecture, "An Analysis of Statistics Bearing on Diabetes Mellitus," by William Muhlberg, M.D.

AMERICAN HEART ASSOCIATION TO MEET

The eighteenth scientific meeting of the American Heart Association will be held June

5 and 6, 1942, at Chalfonte-Haddon Hall, Atlantic City, New Jersey.

acid. Tense vesicles are opened to relieve the discomfort and pain. Later, when the eruption is subacute, drier, and more scaly, a calamine lotion with some olive oil is quite soothing. Soap and water must be omitted entirely.

Of course one must eliminate every suspected irritant until a positive diagnosis is made. If the patch tests are negative and one is still suspicious of a contact, the suspected substances may be brought in contact with the patient one at a time, at intervals of a few days. Specific therapy may be used, for example, with poison ivy. However, if a polyvalent sensitivity develops, specific therapy may not work, and nonspecific therapy, such as autohemotherapy or milk injections, may be attempted. Treatment and diagnosis at the earliest possible moment are important, to prevent a simple monovalent sensitivity from developing into a more resistant polyvalent sensitivity. In applying salves or lotions to an already sensitized skin, it is well first to patch-test the effect in each instance on a small area of normal skin. Baths containing oatmeal, baking soda, bran, starch, or boric acid are often of value.

Prognosis

On removal of the irritant the dermatitis will subside. Early removal prevents a polyvalent sensitivity in many cases. Even a monovalently sensitive skin is more susceptible to irritants after recovery.

Case Reports

Case 1. *Pyrethrum Dermatitis*.—A gunsmith, 55 years of age, who was seen at his home, adjacent to his place of business, which he conducted together with a taxidermist, presented an erythematous, diffuse, oozing vesicular eruption involving only his arms and legs, of seven weeks' duration. His face, neck, and torso were clean. He was so weak from loss of sleep and nutrition that he was now in bed.

He had had no previous skin complaints. This eruption apparently started after he had mopped a floor with a new soap. After the eruption started, various home remedies (noxema, bichloride of mercury, sulfur ointment, etc.) were applied, with aggravating effects. All patch tests were negative. The patient responded well to the usual soothing compresses, but suffered a relapse every week end.

In going over the history of possible contacts, mention was made of intense pruritus which might follow contact with the irritant. The patient kept wondering why he was worse during week ends, although so well during the week. Then he recalled that the taxidermist who conducted the shop with him worked only on week



FIG 2. Flexor aspect of forearms, showing positive patch test of adhesive below on left forearm. Other areas show negative patch tests, but positive areas where adhesive was applied. Coloring matter was added later for contrast in photographing.

ends. On Friday he was feeling fairly well, and wondered if his week end was going to be bad. The door connecting his home and shop was open. He heard the taxidermist using a spray on some animal skins. Some of the spray evidently floated into his room, and within a few moments an intense pruritus developed on his own skin. He immediately connected the spray with his dermatitis, and a severe positive patch test confirmed the diagnosis. Shur-Deth spray, containing pyrethrum, was the offending agent. As soon as this was stopped, the eruption cleared up.

Incidentally, this patient used to think that skin specialists were only for beautiful women, but has now changed his mind.

Case 2. *Adhesive Dermatitis* (Figs. 1 and 2).—A salesman, aged 35, was cut on the face by barbed wire. Five sutures were taken, then tincture of metaphen and a gauze dressing with adhesive tape were applied. A tetanus antitoxin injection was given. On removal of the dressing two days later, the laceration was apparently healing, but an erythematous vesicular eruption was noticed along the edge of the bandage, where the adhesive was in contact with the skin. This was diagnosed by the attending physician as impetigo contagiosa and a 5 per cent ammoniated mercury ointment was applied with another dressing and adhesive. The vesicular itchy eruption spread over the entire face and made no response to various remedies used.

When seen twelve days after the original injury, the entire face was swollen, erythematous, and moist. Patch tests with various remedies (5 per cent ammoniated mercury, bichloride of mercury, lotio alba, noxema, etc.) were negative. A patch test with adhesive was strongly positive. The eruption responded quickly to soothing topic remedies. There was no history of any previous sensitivity to adhesive.

Case 3. *Phosphorus Dermatitis*.—A manager of a brass foundry, aged 49, presented an itchy,



FIG. 1. Contact dermatitis from adhesive, involving entire face.

a normal area of the skin, usually the flexor aspect of the forearm or the back, the circumstances under which the patient's eruption developed. The substance applied must be not a primary skin irritant, that is, it must be one not irritating to the skins of all persons to whom it is applied. The test substance should preferably be in a moist condition. Water or perspiration may be used to moisten the substance. Perspiration may be obtained by placing the substance to be tested in the axilla for a few hours. However, artificial perspiration³ may be prepared and used. At times this is more useful than water, as it more closely simulates actual conditions.

A half-inch square of skin of the flexor aspect of the forearm is covered with the moistened material to be tested. This in turn is covered with a larger piece of gauze or muslin, and then with another covering of waxed or oiled silk, and finally with adhesive to hold the materials on the skin.

A far simpler method⁴ when testing cements, ointments, or volatile oils, is to cover the substance with scotch tape and rim with adhesive. This is easy to observe at short intervals of fifteen minutes while the patient waits. The test is inspected at twenty-four, forty-eight,

and seventy-two hours. If the patient complains of itching or burning at the test site, it may be necessary to remove the test in less than twenty-four hours. Some test material may be left on as long as a week.

A positive test will show a typical dermatitis picture, going through the stages of itching or burning, erythema, edema, and vesiculation. A papular or pustular reaction about the hair follicles or sebaceous orifices is not considered a positive test.

Patch testing, if done at the time of the eruption, may produce a severe reaction locally and aggravate the eruption present. The testing should not be done at the site of the eruption until the skin has been allowed to quiet down for a long time.

If possible, use for test the same material as the patient has used. Proprietary preparations may change from jar to jar. Sometimes a combination of materials used may produce a dermatitis, whereas the individual components are harmless.

Patch tests indicating an epidermal sensitivity may be positive in contact dermatoses, but usually are negative in atopic dermatoses. The fact that the tests are negative would tend to point toward atopic dermatitis. Patch tests positive in atopic dermatitis are usually papulopustular and discrete, as distinguished from a diffuse erythematous vesicular reaction in contact dermatitis.

Patch tests performed on skin adjacent to the eruption are more likely to give a positive reaction. Negative patch tests may be interpreted as follows:² (1) the material tested is not the one causing the dermatitis; (2) the area tested may not be as hypersensitive as the affected area; (3) if the test is done very late, the hypersensitiveness may have disappeared; (4) the test is not reproducing the same conditions of moisture, heat, maceration, friction, light, concentration, etc., as those in which the eruption occurred.

A delayed positive test may occur hours or days after the test is removed. If the test is positive after a long interval, seven days or so, it may indicate a sensitivity that has developed from the test material itself. Generalized dermatitis has been known to result because of a patch test done at the height of the eruption.

Treatment

In the very acute stage, soothing lotions and compresses are best, as Burow's solution, 1:8, potassium permanganate solution, 1:5,000 to 1:8,000, or saturated solution of boric

male worker in a cutlery factory, after a few months at the job of attaching steel knives to redwood handles, developed a vesicular itchy dermatitis on the hands, which gradually spread over his entire body. Patch tests with redwood were strongly positive. His job was changed and the eruption cleared up. Three years later, he was temporarily put on a job of stamping names on redwood handles, and a vesicular dermatitis again developed on his hands. His job has again been changed.

Summary and Conclusions

1. Diagnosis of contact dermatitis is dependent on a very careful history of contacts. The greater number of cases occur on the exposed surfaces. The patch test is confirmatory evidence and must be interpreted correctly.

2. The most common causes are poison ivy and related plants, alkali soaps, orris root face powders, mercury and iodine forming mercuric iodide, sulfur, the dye paraphenylenediamine (as present in furs, dresses, and hair dyes), adhesive plaster, Whitfield's ointment, cements, nickel, and novocain.

3. Diagnosis and treatment quite early are important to prevent possibility of a monovalent sensitivity becoming polyvalent.

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Discussion

Dr. William F. Hoover, *Jamestown, New York*—Dr. Swartz has given us an excellent review of the contact dermatoses and of his experience with them. In dermatology, the more cases we see and study, the more proficient we become. Thus, it seems to me, as we see, read, and hear about more cases of contact dermatitis, we raise our suspicion index to an ever growing list of substances.

I agree with Dr. Swartz that when patch tests have failed, very practical help may often be had by exposing the patient to one or two substances at a time—e.g., clothing. In this way the actual method of exposure is approximated. The effect on the skin is, of course, carefully observed during this time. The use of artificial perspiration in patch tests was mentioned. I use it routinely and it has seemed to enhance the value of these tests.

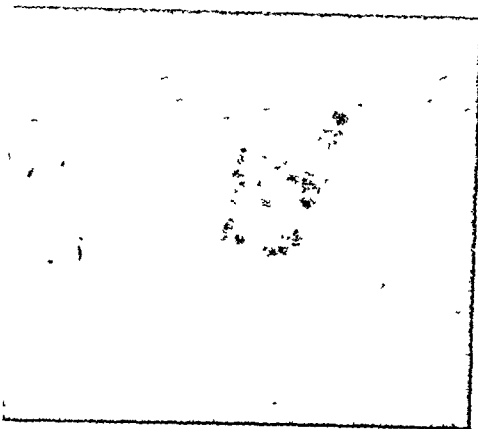


FIG 5. Positive patch test with amido-azotoluene

In general, patch tests are valuable but imperfect aids. As time goes on, we shall probably depend more upon careful stimulation of the detective instincts of the patient and his family. We all see cases of dermatitis on skin areas under the trousers or shirt pockets, produced by articles habitually carried in them. "Kitchen" matches or matchboxes are often the culprits. Recently I saw a bus driver with a dermatitis venenata on the right anterior thigh. He always carried his change in the right trousers pocket. A patch test with an Indian nickel was positive. He now wears a change belt. To date he has had no trouble with his hands.

I should like to mention one series of cases recently seen. Possibly a more detailed report will be made later. In a mail-order house in a neighboring city, selling clothing, any article selected for sale is handled in very large quantities. About eighty women are employed in the office. Frequently each one is given a sample of an article to wear before it is put on sale. In this case a large lot of hard-twist, good-quality beige silk stockings was ordered from one of the big manufacturers. A pair was given to each of the eighty girls.

Ten of the girls developed dermatoses. The eruption was at first distinctly confined to the areas covered by the stockings, but in several patients, in from one to two weeks, it spread and became generalized. The arms, face, and eyelids were then particularly involved. The original dermatitis had an urticarial appearance with perifollicular grouping. This suggested absorption, in perspiration, of dye or finishing material, as mentioned by S. J. Fanberg in the *J.A.M.A.*, August 3, 1940. At this time Fanberg called attention to the slow healing in his cases, which were of dermatitis due to wearing nylon hose. In my cases, pruritus was marked and healing slow.

No data as to material, dyes, or finishing products were obtained. The employers were very



FIG. 3.

FIG. 3. Dye dermatitis: amido-azotoluene (Oil Yellow T), present in wrist watch strap.



FIG. 4.

FIG. 4. Same dye transferred to face, with vesicular dermatitis resulting.

erythematous, moist, scaly, diffuse plaque, about 4 inches in diameter, on the anterior upper third of the thigh and the same picture on the extensor aspect of the right third, fourth, and fifth fingers, of six weeks' duration. The eruption consisted of small vesicles at first, but was now in a sub-acute stage.

There was no previous history of skin complaint and no evidence of any fungus infection. All of the usual patch tests were negative. The eruption did not respond to topic remedies. Fractional doses of x-ray would involute the eruption for a short time and then a relapse would occur. The patient was becoming discouraged.

While talking with his physician one day, he pulled a wooden match out of his right pants pocket to light a cigarette. He stated that for years he had carried wooden matches in his right pants pockets. The solution was now apparent. Patch tests with phosphorus and also with the cloth of the right pants pocket were positive. The eruption cleared up as soon as he stopped carrying uncovered matches in his pants pocket. The right pants pockets in all of his suits had to be changed.

Case 4. Dye Dermatitis (paraphenyldiamine).—A hairdresser, blonde, thirty-eight years old, presented a diffuse vesicular dermatitis of the extensor and flexor aspects of the hands and forearms, of six weeks' duration. Her hands be-

gan to itch, burn, and swell soon after dyeing the hair of a customer with No-Tox (a hair dye containing paraphenyldiamine). Although she wore rubber gloves while applying the dye, she finger-waved the hair with her bare hands when the dye was dry. Patch tests with No-Tox and with paraphenyldiamine were strongly positive.

Cases 5 and 6 (Figs. 3, 4, and 5). Dye Dermatitis: amido-azotoluene (Oil Yellow T).—Two boys, both thirteen years of age, were presented at their confirmation with new wrist watches with black straps. Within three days, both developed severe vesicular eruptions on the wrists outlining the areas of contact with the black wrist straps. One boy also showed some vesicles on the face. Patch tests with the wrist straps were strongly positive. At about this time, Dr. Louis Schwartz published an article⁵ on dermatitis from wrist watch straps, in which he found the particular dye at fault to be amido-azotoluene, and this proved to be so in these two cases.

Case 7. Dye Dermatitis: Aniline Black.—A 26-year-old man developed a severe vesicular dermatitis on the feet and ankles within a few hours after wearing a new pair of cheap black socks on a hot day, when he perspired very much. Patch tests with the material were positive and aniline black was the dye that was found to be the causative agent.

Case 8. Redwood Dermatitis.⁶—A 23-year-old

SOME END RESULTS OF INTERNAL FIXATION OF THE HIP

WILLIAM WARD PLUMMER, M.D., and FRANK N. POTTS, M.D., Buffalo, New York

WITHIN the past ten years, more has been done to solve the problem of the fractured hip than had been accomplished in all of the preceding time. Whatever form of fixation was chosen, whatever method of application was preferred, it was designed first to reduce the fracture and second to hold the fractured surfaces together. Many of the accepted reasons for failure of union have been dispelled because these two fundamental principles of fracture treatment have been made applicable to the fractured hip.

Surgeons dealing with fractures, and certainly patients sustaining fractures of the hips, are indebted to the pioneers in this work. We have obtained a much higher percentage of united hips with excellent functional result, undoubtedly the patients have been much more comfortable, and, in all probability, the lives of many have been saved.

Internal fixation is an accepted procedure in practically all cases where it is applicable. As we have increased our familiarity with the procedure, it has become greatly simplified. However, it is still a procedure that necessitates meticulous care in its application.

It has been the writers' experience to participate in the treatment of approximately 125 cases of fractured hip with internal fixation. The work was started with Kirschner wires, which were found to be unsatisfactory. The Moore pins were used with satisfaction, but in the last few years we have confined our measures to the use of the Smith-Petersen nail. This is purely a matter of our personal choice, based upon limited experience with other methods, but a fairly extensive experience with the nail. We are satisfied with our method of reduction and of introduction of the nail. We are satisfied that the postoperative care of the patients has been minimized and simplified. We believe that the procedure is without doubt one of the great contributions to bone surgery. However, we find that there are certain patients with whom we have not obtained the desired results. Willing to accept good results, we must attempt to analyze the causes of the failures we have experienced.

We have made no attempt to choose a type

of patient or the type of fracture, as long as it was a fracture of the neck of the femur. We have taken these patients at all ages, the oldest being 93, and have not made the presence of a complicating lesion a reason for not operating. We have felt that these people were all living at their normal until the incident of the fractured hip, and that our responsibility was to restore them to that normal. We have had no reasons to regret this course. In none of the cases has the operative procedure produced any unusually worrisome postoperative shock; on the contrary, the patients have been made more comfortable and have been able to sit up in bed, and we are certain that we have avoided many complications that used to occur. We feel that the more simple, impacted transcervical fracture is just as much entitled to this form of treatment as the fractured neck with marked separation of the fragments.

We have not had the experience of handling any recognized pathologic fractures. We have had some difficulty on occasion in obtaining a perfect reduction, but, with the exception of one or two instances, we have felt that we obtained a satisfactory reduction. The failures we have had cannot be attributed to imperfect reductions. It has been observed that some of the difficulties in reduction were due to obliquities in the fracture line, in which we had extreme difficulty in maintaining the reduction. However, we were in all cases able to satisfy ourselves, at the time of operation, that we were maintaining a good position of the fragments and nailing them. In all probability, the obliquity of the fracture line and the placing of the nail may be very deceiving, and what appears at the time of operation to be a good positioning of the nail may not actually be so. Because of the obliquity of the fracture line, the nail does not get as firm a grip in the proximal portion of the neck and head as it would seem in the radiographs to have. We have reason to believe that this constitutes one cause of some of our failures.

We have felt that the valgus position was a good one, and that, if once obtained, no attempt should be made to change it. We have not always been able to obtain the most satisfactory position as far as rotation of the

helpful and I was enabled to see all of the 10 cases at least twice. A few other women in the group reported some pruritus. This may have been induced by suggestion.

Five of the girls washed the hose before they wore them. Patch tests with washed and unwashed stockings from this lot were done on all cases. A control of white silk material was used in each case. The controls were all negative. The washed material was moderately positive in only one case. The unwashed material was positive in 3 cases. Personal allergy histories were obtained for three of the girls (infantile eczema, 1; infantile eczema, and hay fever, 1;

urticaria, 1). Two other women gave definite family histories of allergy.

The time from exposure to the appearance of the eruption was two to fifteen days. The proportion of those among the group exposed who had trouble (12 per cent) is interesting.

In closing, a much larger series of cases, presenting heavy edema of the genitals followed by severe vesicular dermatitis after wearing new cheap cotton shorts, could be mentioned. This would take too long to discuss at this time. Most of you, I am sure, have had similar cases in the past few years.

Many thanks to Dr. Swartz for the presentation of his very good paper.

AUDIENCE RESPONSE TO "DOCTORS AT WORK" PROGRAM

Radio-program audiences may be checked in several ways. Audience mail response is one of the quickest and easiest, and, if interpreted conservatively, most satisfactory. Few programs receive audience mail in appreciable amount unless some effort is made to cause listeners to write. "Doctors at Work," the radio program of the American Medical Association and the National Broadcasting Company, now in its second season, has no product to offer for sale. To ascertain how many listeners would respond to an offer to send them printed material in the field of health education, in January, 1941, "Doctors at Work" offered a list of first-aid supplies and how to use them, suitable for pasting inside a medicine-cabinet door. This was announced on two successive programs, only one short reference being made at the end of each broadcast. The offer brought 8,200 letters and cards requesting the list. In April, just as the tourist season opened, another test was made. This time listeners were offered a chart and a table of highway health-and-accident safeguards. This offer, made in the same way as that in January, brought only 2,800 replies. In 1940-1941, "Doctors at Work" enjoyed the advantage of a favorable

evening hour, 10:30 P.M., EST, Wednesdays. In the 1941-1942 season a suitable evening hour was not available, and the series was opened on December 1 at 5:30 P.M., EST, Saturdays.

In a few weeks this time was switched to 5 P.M., EST, where it has since remained. In March, 1942, an offer was made to listeners to send them a check list of fifty factors which contribute to the health of home and family, an instrument by which their own health practices could be evaluated. The offer was made in the usual fashion—one short reference on two successive broadcasts. The number of replies exceeded 8,500 (8,500, March 24). It is impossible, of course, to estimate accurately the actual number of listeners from such responses. However, only small percentages of listeners respond even to an offer of more or less tangible objects, such as usable samples. In radio circles, the responses to audience mail tests here reported are considered highly satisfactory for a noncommercial program. "Doctors at Work" has a large following of faithful listeners. This following is nationwide; every state is represented in this response, as is Canada.

—J.A.M.A.

DIET OF AMERICANS IN GERMAN CAMPS

First accurate account of what American prisoners are fed in a German prison camp was made public by the American Red Cross, which described the diet as "slightly insufficient."

The American internees, about 300, are at "Lag VII," a prison camp at Laufen, near Salsburg, Germany, and are reported badly in need of cloaks, clothing, underclothing, and shoes by an International Red Cross Committee delegate who visited them. Headquarters here cabled \$5,000 to Geneva, Switzerland, for purchase of needed clothes.

The diet, which includes an unknown "food paste," is the same as that in other prison camps and consists of (per month): meat, 1,325 grams; fish, 248; margarine, 720; cooking fat, 320; food pastes, 500; marmalade, 770; potatoes, 4 kilograms; cabbage, carrots, 6 kilograms;

sauerkraut, 1,080 grams. In addition, there is a ration of 330 grams of bread per day. Usual menus: morning, tea substitute; noon, soup containing 40 grams meat, 25 grams beans, 10 of fat, a few potatoes; evening, same, sometimes kraut. Hygiene and disinfection were described as good. Internees are allowed one hot shower a week.

Red Cross nutritionists here immediately set about calculating the value of this diet in terms of calories and plan to send food packages to the American internees to supplement their diet.

Neither Red Cross nor government nutritionists here were able to say what the food pastes are. A guess was offered that they might be some kind of macaroni or other flour-and-water paste. The tea substitute also is unknown here.

—Science News Letter

trabeculation across the fracture line. We have had two cases in which there was intrusion of the nail, one of which produced symptoms while the other did not. When we have removed nails it has been because of the discomfort of extrusion or because there was an obvious nonunion and we were losing the position of the head.

It would seem from this review of unfavorable conditions arising after nailing of the hip that we still have some progress to make. We

are inclined to believe that the failures are in part due to the operators and in part to circulatory changes occurring at the time of injury. With proper reduction and adequate fixation, we have minimized further damage to the circulation, and in all probability this accounts for the very high percentage of good bony unions and satisfactory results. We are not yet able to detect the case that apparently has had too great damage done to the circulation.

Deaths of New York State Physicians

Name	Age	Medical College	Date of Death	Residence
Russell H. Andrew	32	McGill	April 29	Massena
Edwin C. Babcock	69	N. Y. Hom.	April 20	Utica
Ralph M. Beach	61	P. & S. N. Y.	March 31	Brooklyn
Willard P. Beach	82	P. & S. N. Y.	April 18	Bronx
Louis G. Cucinotta	36	Tulane	January 17	Brooklyn
Lawrence J. Dailey	45	Albany	April 17	Cohoes
Nellie V. Donovan	54	Cleveland-Pulte	February 8	Manhattan
Archibald W. Dunn	58	Pennsylvania	April 29	Manhattan & Glen Ridge, N. J.
Julius P. Dworetzky	55	L. I. C. Hosp.	April 20	Liberty
William C. Garvin	68	P. & S. N. Y.	April 3	Binghamton
Nathan Goodfriend	61	P. & S. N. Y.	January	Manhattan
Joseph A. Gregory	58	Buffalo	April 7	Buffalo
Burt D. Harrington	67	L. I. C. Hosp.	April 15	Brooklyn
John W. Henderson	66	Cleveland Hom.	March 30	Kennedy
Alice K. Higgins	58	Tufts	April 28	Rockville Centre
Edmund Y. Hill	75	Bellevue	March 30	Manhattan
Frederic M. Johnson	67	Syracuse	April 12	Yonkers
Christopher F. Keefe	87	Bellevue	April 2	Kingston
Harold Landow	28	Pennsylvania	March 27	Manhattan
Harry R. Lohnes	63	Buffalo	April 1	Buffalo
Donald S. MacNaughton	62	L. I. C. Hosp.	April 24	Brooklyn
Joseph W. McCready	78	Bellevue	December 31	Manhattan
Myron M. Metz	71	Buffalo	April 6	Williamsville
Monta W. J. Middleton	—	Fort Wayne	April 5	Manhattan
Moritz Muldberg	74	N. Y. Univ.	April 14	Manhattan
George L. Nicholas	77	P. & S. N. Y.	February 17	New City
Jason N. Robertson	88	Vermont	April 7	Wolcott
Henry S. Stearns	80	N. Y. Univ.	April 2	Manhattan
Frederick E. Vaughan	57	Albany	April 14	Mount Kisco
John B. Walker	81	Harvard	April 13	Manhattan
James J. S. Walsh	65	P. & S. N. Y.	April 5	Bronx
Lambert H. Weinheimer	54	Syracuse	April 7	Syracuse
Shirley W. Wynne	59	P. & S. N. Y.	April 19	Manhattan

"I AM AN AMERICAN DAY"

... will be celebrated in Central Park in New York City on Sunday, May 17, and "New York City at War" will be dramatized in a parade on Saturday, June 13. These joint festivals have

been planned to give every New Yorker an opportunity to participate in inspiring patriotic rallies. Mayor La Guardia has appointed Mr. Grover A. Whalen as chairman of both events.

head on the neck is concerned. We have had no reason, however, in the few instances in which that has occurred, to believe that it was a factor in the unfavorable result.

There have been no cases in our series in which we thought it necessary to open and reduce the fractured elements before nailing. We would qualify that statement to apply to fresh fractures.

It has been our feeling that, even though a perfect reduction was not obtained, if we had 75 per cent approximation of the neck to the head, which would allow for adequate placing of the nail, this would give us a satisfactory result. We have never felt that impaction of a fracture was a logical or practical procedure. Internal rotation produces sufficient impaction without any possibility of further damage to the precarious blood supply.

One of the difficulties we have experienced in a satisfactorily reduced fractured hip has been a protrusion of the nail through the upper part of the head. This has occurred in those cases in which the position of the nail in the head was high. We feel that the best position for the nail is in the center of the head, but that the position below the center is acceptable and preferable to the high position.

In all likelihood some of our failures have been the result of the nail being too high and too close to the cortex. We attempt in nailing to have the arms of the Y toward the upper portion of the head. This may be theoretical reasoning, but it would seem that there would be less chance of going through the bone with the nail in this position than there would be with the leg of the Y up.

Our postoperative fixation has been with a metal boot, with a transverse bar to prevent rotation. This is left on for a period of ten days or two weeks. We sometimes sling the leg from a Balkan frame, sometimes raise it upon pillows; either procedure adds to the comfort of the patient. The postoperative boot is applied more for comfort than in an attempt to stabilize, as we feel that the properly inserted nail is producing the desired fixation.

We allow these patients to sit up in bed any time after the operation that they so desire. This adds to their comfort and lessens the possibility of postoperative lung complications, and in a properly nailed hip should in no way put stress on the fixed fragments. We do not encourage them in lying on the side of the operation, but after the wound has healed, if they wish to assume that position, there is no objection to it.

Our first indications of trouble have appeared at varying lengths of time following operation. We have had patients perfectly comfortable for ten days or two weeks, then suddenly having a sharp pain in the hip, difficulty on motion, with x-rays showing that the end of the nail was not in the head, that it had either backed out or that in some way the head had become disengaged from the nail. In all probability this has occurred in the oblique fracture line or in the comminuted fractured area. Oblique fractures in the neck of the femur are more frequently seen than would be suspected.

We have had the nail slip back and in that way lose its hold on the head. By far the majority of the heads have been dense and hard, and it was easy to determine when the nail was entering the head; even in instances of that degree of density of the hip, we have had the nail slip back. We have had the nail slip back when the cortex through which it was introduced has been unusually soft. In some instances where the cortex was hard, and it was necessary to make numerous drill holes or chisel cuts to introduce the nail, the nail has slipped out. There is probably very little gripping of the head of the nail by the cortex, but that little is of considerable worth. We have, on occasion, reoperated these cases, driving the nail through its original tract and applying an internal fixation agent, such as a screw, and have then had the nail stay in place and the case go on to a very satisfactory result.

We have had an aseptic necrosis occur in a well-reduced and easily maintained fracture. In this case the fracture has repaired and the necrotic head has eventually undergone restoration. We have had two cases, seen late, with nonunion, but without aseptic necrosis of the head. In each of these we have done an open reduction, as far as possible, clearing the fracture line of the scar tissue, then introducing the nail, and have had satisfactory results. We have had two failures with this same procedure in cases where the heads were necrotic.

We have had hips satisfactorily reduced, nailed, and, as far as we could determine, satisfactorily recovered, that showed a marked change in the relation of the head on the neck, with protrusion of the nail occurring a year later. Obviously the interpretation of satisfactory union made radiographically was incorrect.

We have felt that these patients should be allowed to bear weight when the x-rays show

public health in permitting the practices followed by most lunch counters in this state."

Even if it were not for possible health significance and popular interest most people will agree that common decency should demand at least the removal of saliva and lipstick from glasses between uses.

One of the greatest difficulties encountered in the improvement of restaurant hygiene is the human element. Cooks, waiters, and waitresses work for low wages. There is a frequent turnover and new recruits receive little, if any, training. How are they to learn the principles of good hygiene? Does the busy eight-dollar-a-week waitress realize that she is endangering someone's health when she empties a used water glass just removed from a table and fills it for the next customer without stopping to wash it? Probably, it never occurs to her that anything more serious could happen than that the glass might not look clean to the customer. No doubt some of you have seen girls preparing salads stop to lick their fingers and go ahead with their work as if nothing happened. Ask a counterman to hand you four cups and he is more than likely to grasp four right side up in one hand by putting a finger in each cup. Then there is the soda clerk who mixes an overdose of chocolate drink and when he is in a spot where he thinks he is not seen, drinks the excess out of the mixer before serving the customer. We can always take for granted the food handler who leaves the toilet room without washing his or her hands. Fortunately, disease carrier control protects the public to a certain extent against such people. These are just a few of the things that happen and, knowing human nature as doctors must, you will agree they are going to continue to happen while the human element remains in the picture. However, such happenings can be minimized by intensive education and by making it easier through the use of proper equipment to do things the right way than to do them the dangerous way. Another protective weapon is to make critical operations visible for customer supervision in the way the cash register is used.

Aside from the personal element the next item most likely to affect health directly is the efficiency of washing and sterilizing dishes and glasses. It is on this important item that the Department is concentrating attention.

This problem usually has been handled in the easy way—that is, someone has said "there ought to be a law." After an "air-tight" but not necessarily practical law has

been passed and after perhaps a few conscientious operators have complied with the letter of the law whether or not they have accomplished results, we sit back and feel that the problem has been solved.

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In order first to understand the problem ourselves, our work was begun with field observations. Some of the things observed have been related. Two unsatisfactory methods of washing are much in evidence. One of these is the practice followed at many soda fountains and taverns of simply sloshing a soiled glass around in a tank full of cold or warm water of questionable cleanliness. The second method observed in some small restaurants is to wash the dishes in warm, soapy, and, generally, greasy water in some container, such as an old lard tub, then placing them upside down on a drainboard. Occasionally, the dishwasher will draw a saucepanful of water out of the warm water faucet and pour it over the outsides of the dishes as they are stacked for draining. Then they are dried with towels of questionable cleanliness. There are plenty of opportunities for hand contamination of such dishes before they reach the customers.

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RESTAURANT HYGIENE

WALTER D. TIEDEMAN, M.C.E., Albany, New York

IS RESTAURANT hygiene of any significance to health? What are the more important problems involved? Are present conditions bad and, if so, what methods are being, or can be used to improve sanitary conditions? Are these methods effective and efficient? Are present laws and regulations reasonable and, if not, how should they be modified? Are present enforcement methods reasonable and efficient? These are some of the questions that faced the New York State Department of Health in 1938 when attention was directed to the problem of restaurant hygiene by an amendment to the Public Health Law requiring the sterilization of utensils used in public eating and drinking places. This was closely followed by the adoption of a chapter of the Sanitary Code relating to restaurants. The law was further amended the following year at the Department's recommendation to require "disinfection" instead of "sterilization." Perhaps the answers to all of these questions are not yet known, but studies to date have uncovered some interesting, practical problems and what appear to be reasonable solutions.

As to the public health significance of restaurant hygiene, there is not enough incontrovertible evidence to mark it as an important problem. We must give some weight to the work of Lynch and Cummings¹ at the Port of Embarkation at Newport News during the World War when influenza was pandemic. Briefly, groups of soldiers aggregating about 33,000 used dishes washed by the individual mess kit method and other groups of about equal total used dishes washed collectively and rinsed in water at about boiling temperature. During a two weeks' period of observation approximately five times as many cases of influenza occurred among those using the individual mess kit method of washing as occurred among those who used boiled dishes. Investigators² have reported finding *Staphylococcus albus* and *aureus* and *Streptococcus viridans* on supposedly clean eating and drinking utensils in restaurant and beverage rooms. The same investigators report finding hemolytic streptococci in wash and rinse waters. How-

ever, we can find no reports of proved outbreaks of disease traced to utensils.

Regardless of scientific proof of health significance, the man on the street is convinced that restaurant hygiene affects his health directly and resents the unsatisfactory practices he observes from day to day in public eating places. We have observed a male patron at a busy cafeteria dip a paper napkin in his coffee, then use it to wash the rim of his cup, his knife, fork, and spoon and, finally, dry them carefully with the dry portion of the napkin. Then he felt safe to go ahead and eat.

To illustrate this further, a nurse in complaining about conditions at a five-and-ten-cent-store soda fountain says: "Three weeks ago I had a soda there, and the next day had a very bad sore throat which lasted a week. Yesterday my husband and I each had a soda there, and today he has a sore throat. While we were sitting at the counter, one of the waitresses was washing dishes in water with apparently no soap, and it could not have been very hot as there was no sign of steam from it. After 'washing' the dishes, glasses and spoons, the girl wrung out the dishcloth and, without rinsing the dishes, used the same dishcloth to wipe them, putting the spoons back in the tray from which they were to be used. Until then, I had not thought of any connection between the sodas and the sore throats, and there might not have been any, but with the prevalence of colds and grippe, it seems to me that a soda fountain should use a more sanitary method of washing dishes."

As another example, the president of a large milling concern writes: "For a long time now I have refrained entirely from patronizing drinking fountains and lunch counters in this state because of the inexcusably filthy way in which eating utensils are washed and dried after use for further servings. Such places are, potentially, spreaders of dangerous diseases. At some counters I have actually seen waiters rinse their hands in the same water as that in which eating utensils are supposed to be washed and then dry their hands and arms clear to the elbows with the towels used for drying such utensils. In many places—I am inclined to think in most places—there is not even a pretense at the use of hot water. In my opinion your Department is tolerating an indefensible menace to

¹Read by invitation at the Annual Meeting of the Medical Society of the State of New York, Buffalo, April 29, 1941.

²Chief, Bureau of Milk Sanitation, New York Department of Health.

public health in permitting the practices followed by most lunch counters in this state."

Even if it were not for possible health significance and popular interest most people will agree that common decency should demand at least the removal of saliva and lipstick from glasses between uses.

One of the greatest difficulties encountered in the improvement of restaurant hygiene is the human element. Cooks, waiters, and waitresses work for low wages. There is a frequent turnover and new recruits receive little, if any, training. How are they to learn the principles of good hygiene? Does the busy eight-dollar-a-week waitress realize that she is endangering someone's health when she empties a used water glass just removed from a table and fills it for the next customer without stopping to wash it? Probably, it never occurs to her that anything more serious could happen than that the glass might not look clean to the customer. No doubt some of you have seen girls preparing salads stop to lick their fingers and go ahead with their work as if nothing happened. Ask a counterman to hand you four cups and he is more than likely to grasp four right side up in one hand by putting a finger in each cup. Then there is the soda clerk who mixes an overdose of chocolate drink and when he is in a spot where he thinks he is not seen, drinks the excess out of the mixer before serving the customer. We can always take for granted the food handler who leaves the toilet room without washing his or her hands. Fortunately, disease carrier control protects the public to a certain extent against such people. These are just a few of the things that happen and, knowing human nature as doctors must, you will agree they are going to continue to happen while the human element remains in the picture. However, such happenings can be minimized by intensive education and by making it easier through the use of proper equipment to do things the right way than to do them the dangerous way. Another protective weapon is to make critical operations visible for customer supervision in the way the cash register is used.

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been passed and after perhaps a few conscientious operators have complied with the letter of the law whether or not they have accomplished results, we sit back and feel that the problem has been solved.

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In order first to understand the problem ourselves, our work was begun with field observations. Some of the things observed have been related. Two unsatisfactory methods of washing are much in evidence. One of these is the practice followed at many soda fountains and taverns of simply sloshing a soiled glass around in a tank full of cold or warm water of questionable cleanliness. The second method observed in some small restaurants is to wash the dishes in warm, soapy, and, generally, greasy water in some container, such as an old lard tub, then placing them upside down on a drainboard. Occasionally, the dishwasher will draw a saucepanful of water out of the warm water faucet and pour it over the outsides of the dishes as they are stacked for draining. Then they are dried with towels of questionable cleanliness. There are plenty of opportunities for hand contamination of such dishes before they reach the customers.

These field observations also revealed some obvious defects in the operation of dishwashing machines. For instance, where drip-regulated solution feed jars were used to maintain continually the concentration of deter-

gent or dishwashing compound in the wash water, these were almost invariably found to be clogged. Satisfactory types are available in which the flow control throttle valve is on the fresh water rather than the solution. In a common type of glass washer the rinse water is sprayed through a single perforated pipe at the back. If the tray of glasses is pushed out over this pipe very slowly the glasses are fairly well rinsed. However, the natural thing is for operators to push them out quickly. In another machine there was sufficient headroom to introduce one basket of glasses on top of another for washing. In a busy five and ten cent store we found an operator putting the baskets in two deep with never a thought as to how the lower sprays were to reach the upper glasses or the upper sprays to reach the lower glasses.

Other more serious and more intricate defects were discovered. Some of the simpler machines were doing better work than the more complex ones. With a view to exploring the whole dishwashing machine problem and bringing defects to the attention of the manufacturers for needed improvements, a committee of the American Public Health Association made a study of machines in 1941.

Most operators are willing to admit that they are using really hot water for disinfection of dishes and glasses; in fact, they will say that it is practically boiling. However, the thermometer frequently tells a different tale. It is not practical to carry the temperature of hot water at 180 F. or higher in a circulating system serving a building. Metals other than monel metal used in storage tanks and pipes deteriorate rapidly under temperatures as high as this. Also, people using hot water for other purposes may scald themselves. There are two possibilities for securing the hot water required. One is to install a booster heater designed for the purpose of taking water from the circulating hot-water system and raising it to 180 F. or more in the quantity required for rinsing dishes. The other possibility is to rinse the dishes by immersion in hot water, in which case an open, thermostatically regulated gas burner is placed under the tank of rinse water to maintain the required temperature. Laboratory studies of dishwashing have been conducted under the supervision of Mr. F. W. Gilcreas of our Division of Laboratories and Research, while the field studies were in progress. The so-called swab rinse technic has been used for determining whether or not dishes and glasses have been properly washed and disinfected. Briefly,

a sterilized cotton swab on stiff wire is soaked in sterilized, buffered distilled water and used to swab the rims of cups and glasses and 4-square-inch areas of dishes. This may also be used to swab the bowls of spoons and the tines of forks. At the laboratory the swabs in the buffered distilled water are placed in a shaking machine and portions of the water are then plated according to standard methods. After many tests had been made a study of the results indicates that a bacteria count of 100 or less per utensil may be considered as satisfactory disinfection. Results also indicate that it is reasonable to expect these rinse samples to be free of bacilli of the coliform group.

Early in this work it became apparent that the washing operation deserved much more consideration than had heretofore been given it. For instance, in testing the efficiency of certain so-called sterilizing processes by laboratory test using hemolytic streptococci of human origin artificially applied to glasses, it developed that the controls subjected only to good washing and rinsing were free from the pathogenic organisms. Apparently, they had been removed mechanically without the aid of disinfection. Further tests using coliform organisms showed that disinfection by chlorine or ultraviolet irradiation were ineffective when not preceded by effective washing. This is not stated with a view to minimizing the value of disinfection but simply to point out the importance of good washing and rinsing.

It has been apparent from the start that the properties of detergents bear an important relationship to the effectiveness of the results obtained in washing utensils. Some of the ingredients of detergents which improve their effectiveness are expensive. It follows that if detergents are bought and sold simply on a price basis most of the detergents used are going to be the cheaper and ineffective ones. For this reason it appeared to be a primary objective of work in this field to test and classify detergents. It is to be expected that the detergent or washing compound should (1) emulsify food fats; (2) flocculate other food solids; (3) wet glass, china, and metal surfaces readily and consequently rinse freely; and (4) suspend calcium or other minerals in the water. If separate tests of detergents were made for each of these properties, the problem of integrating results of the various tests into a coherent whole would be a difficult one.

The Division of Laboratories and Research of the Department also has been testing de-

tergents by means of a combined test that is expected to result in a broad classification of the detergents tested which will serve as a practical guide for operators. In principle, this test consists of dipping clean microscope slides in a fluid soiling material made up of an assortment of food fats and such substances as flour, soybean meal, spinach, and milk. This is dried on the slide in an oven, and the slide is then washed in a 1.3 per cent solution of the detergent to be tested, is maintained at a standard temperature in a standard laboratory mechanical washer for two minutes, and is then rinsed by a similarly standardized method. After the washed and rinsed slide is dried, it is dipped in activated carbon to accentuate the remaining film. The excess carbon is removed by suction and the amount of light passing through the slide is compared with the amount passing through a clean slide similarly treated with activated carbon. The comparison is made by means of an electric eye, giving a scale reading that is used as an index of effective detergency. Tests are being made with water of different hardness and with rinse water at different temperatures. It is believed that work of this kind, while time-consuming in itself, will in the long run do more to advance the cause of cleanliness in food utensils than police work in the enforcement of arbitrary rules.

Heretofore, most efforts at improving restaurant hygiene have been directed along the line of specifying so-called methods of sterilization to be followed. Ultraviolet irradiation, chlorine, hot air, steam, and hot water are among the agents used. Present work included studies of such methods.

When the glasses are absolutely clean and dry, exposure to ultraviolet light is found to be beneficial. However, ultraviolet rays do not penetrate glass or greasy films, and there is a tendency for the rays to be deflected by globules of water.

There are many practical defects to stand in the way of using chlorine effectively as a disinfectant. Our laboratory tests indicate that if all the greasy film is not removed in the washing process the chlorine is ineffective. If all the film is removed, it is quite likely that practically all the bacteria have been removed mechanically. Experience has shown that operators will not leave glasses or dishes in chlorine solutions for the two minutes required for it to take effect. If they are allowed to rinse the residual chlorine off, it is generally done before the chlorine has had time to take effect. Otherwise, traces of

chlorine remain on the rims of glasses and produce an objectionable taste.

There appears to be a tendency for wetting agents used in detergents to have bactericidal properties. Furthermore, some investigators³ have reported favorably upon the use of industrial zephiran or roccal containing high molecular alkyl-dimethyl-benzyl-ammonium chloride as a chemical disinfectant for utensils. Our laboratory has not as yet tested this product. Our practice is to proceed slowly with new products until there is ample confirmation of results from unbiased sources. However, there appears to be a good possibility to secure a good disinfectant in this field for tavern and soda-fountain use.

Hot air should be a satisfactory disinfecting agent, provided sufficient time is allowed for the utensils to take on the heat. However, in one hot-air sterilizer tested, the manufacturer's recommendation was to keep the regulator set at 250 F. and leave the glasses in for five minutes. In checking temperatures after inserting a full tray of heavy glasses it developed that a temperature of only 99 F. had been reached at the end of a five-minute period. It took sixty-five minutes for the temperature to get back to 250 F.

Steam should be an effective sterilizing agent if properly applied. However, it is necessary to confine the steam in a cabinet and to provide a cold-air release to prevent a blanket of cold air from protecting the utensils from the steam.

The method most frequently found to be producing good results was immersion of utensils in hot water thermostatically maintained at 170 F. or higher. This treatment has the added advantage of providing an additional rinse with water that should be free from harmful bacteria because of the temperature. Dishes and glasses so treated will dry rapidly without toweling.

Properly designed wire baskets are essential for the immersion of dishes in hot water, as well as for the storage of glasses and cups. When immersing cups and glasses it is important that they be in such position that no air will be trapped in them, thus preventing the hot water from coming in contact with all of the inner surfaces. The glasses should be placed upside down in the rack so that they will be grasped by the bottom when removed, and the cups with the handles up so that they will be grasped by the handles instead of by the rims. This prevents finger contamination of surfaces with which the mouth or beverage may come in contact. A sufficient

number of wire racks should be provided in which to store glasses and cups until they are used. These racks are made to stack one on the other.

The observation that visually clean surfaces were usually free from bacteria led the Department to encourage the development of a device for determining whether or not glasses are visually clean. The General Electric Company has developed such a device for examining glasses. The observer gets a view of the glass under such light conditions similar to those in dark-field illumination and any film on the glass is visible. The use of a device like this should cut down the amount of laboratory work needed, since health officers will require that operators first get the glasses visually clean before they have laboratory tests made to determine freedom from bacteria.

The results of studies have convinced us that the most practical type of regulation is one setting a bacteriologic standard to be attained in the washing and disinfection of dishes, permitting the operator to select and use the method of his choice. Furthermore the most effective enforcement procedure is to check by visual and laboratory tests the results being obtained, followed by efforts to correct unsatisfactory conditions by persuasion if possible, but by coercion if necessary.

The New York State Sanitary Code now provides that "all eating, drinking, and cooking utensils shall be so cleansed and disinfected as to be free from bacilli of the coliform group and to have a total bacteria count of not more than 100 per utensil as determined by test in a laboratory approved for the purpose by the state commissioner of health." In approving the laboratories the commissioner prescribes the technic to be followed in making tests.

It has taken considerable time to build up the ground work for what we expect to be a good program in restaurant hygiene. However, once the underlying principles are generally understood and inexpensive, adequate equipment is available to make it easy to wash and disinfect dishes and glasses effectively, progress should be rapid.

References

1. Lynch and Cummings: *Am. J. Pub. Health* 9: 25 (1919).
2. McNabb, et al.: *Canad. Pub. Health J.* 29: 591 (1938).
3. Krog, A. J., and Marshall, C. G.: *Am. J. Pub. Health* 30: 340 (April) 1940.

Discussion

Dr. Paul B. Brooks, Albany, New York—Mr.

Tiedeman has pointed to the fact that the evidence of danger from the use of inadequately cleaned dishes and utensils in public eating places is rather limited. The fact is that it is largely circumstantial. We do not find records of epidemics traced to dirty dishes as we do to water, milk, and other foods and for reasons that are rather apparent when you give the matter a little thought.

The contaminated milk, for example, is consumed by a number of people at the same time and they develop symptoms of infection at about the same time. The discovery that the milk was the thing used in common gives the clue, and the milkman has a list of his customers. Eventually, the laboratory may be able to demonstrate the contamination in the milk. But when a customer with infected mouth secretions contaminates the edge of a glass (and I believe the drinking glasses probably are the greatest factor in the spread of infection), the next customer may be the only one exposed to the infection. He may develop scarlet fever or influenza or something else but there is practically no possibility of tracing the source of his infection.

We know that we have many sporadic cases of diseases transmissible through mouth secretions, and it is quite possible—in fact I would say rather probable—that some of them come from dirty eating and drinking utensils. I doubt, however, if the number is relatively great. The contaminated drinking glass might be compared to the clandestine prostitute; it is a source of danger but the number of people it is likely to infect is limited. So I believe the problem is, at least in part, one of esthetics—municipal housekeeping.

In the Department we have gotten in the habit of referring to the restaurant hygiene program as the "dishwashing" program. We have used this term facetiously but it is not so far off. As Mr. Tiedeman has brought out, the practical studies that have been made have demonstrated that practically all that is needed to get the degree of bacterial reduction set up as the standard is a good washing job—washing with hot water and soap or some other detergent, followed by rinsing with hot water.

I heard, a while ago, of a city health officer who was not pushing this "dishwashing" matter so far as the drinking places were concerned because the local ABC Board was opposed to it. They said these places had "trouble enough now." I recently heard of a bartender who made a vociferous protest because a customer questioned the adequacy of rinsing his glasses in cold water. If general reconstruction of equipment had been required, with the use of chlorine solutions, etc., as many at first thought was necessary, there might be some grounds for sympathy and protests. But I can see no reason why a place unwilling or unable to do an ordinarily good job of dishwashing should expect to be permitted

to impose on the public, regardless of the possible danger. If it cannot provide soap and hot water and someone capable of applying them, it should not be in the business.

Our practical problem, at the moment, is that of enforcement. A city of from 50,000 to 75,000 people, for example, has several hundred eating and drinking places. It has a limited inspection force and limited laboratory service available for this type of work. The smaller the community, the more limited the facilities, generally speaking. It would be unwise to take an inspector off from milk or other important work for any long period. To take swabbings for laboratory examinations in all places, with the amount of information required by the laboratory, would involve an amount of time and effort that would be prohibitive. So I believe the best procedure is to educate the public to expect and demand cleanliness and to do its own in-

specting. Our motion picture "Twixt the Cup and the Lip" represents an effort in this direction. The official inspectors, I believe (and I am quite sure Mr. Tiedeman agrees with me), should depend largely on visual inspections to see if proper facilities are provided and used; these should be followed up with the laboratory tests on the unsatisfactory places. If they get too recalcitrant, they should be taken to court. Westchester County recently reported a successful prosecution where the laboratory test was accepted as evidence. Sentence was suspended only because, before the case came to trial, the defendant had provided necessary equipment.

For some reason this restaurant hygiene program seems to have a special popular appeal. In allotting our time and effort relative values should be considered, but it is a good idea to "strike while the iron is hot."

MEETING—AMERICAN SOCIETY OF ANESTHETISTS, INC.

The regular meeting of the American Society of Anesthetists, Inc., was held in the Squibb Auditorium, 745 Fifth Avenue, New York City, on April 9 at 7:30 P.M. The scientific session was as follows:

1. "Possibilities and Limitations of Barbiturates in Anesthesia as Suggested by Experimental Work"
Henry K. Beecher, M.D., Door Professor of Research in Anesthesia, Harvard Medical School; Anesthetist-in-Chief, Massachusetts General Hospital, Boston
Discussant: Alfred Gilman, Ph.D., Assistant Professor of Pharmacology and Toxicology, Yale University School of Medicine, New Haven, Connecticut
2. "Refrigeration Anesthesia for Limb Operation"
Frederick M. Allen, M.D., Professor, Department of Internal Medicine, Polyclinic Hospital, New York City
Discussant: Lyman W. Crossman, M.D., Chief Surgeon, City Hospital, New York City
3. "Asphyxial Resuscitation—The Phenomenon and Its Mechanism"
Samuel A. Thompson, M.D., F.A.C.S., Associate Professor of Surgery, New York Medical College, New York City
"Comparison of Methods of Resuscitation"
George L. Birnbaum, M.D., F.A.C.S., Lecturer in Surgery, New York Medical College, New York City
Discussant: B. B. Sankey, M.D., Anesthetist, Huron Road Hospital, East Cleveland, Ohio

WHAT ONE SCHOOL DOES FOR GOOD HEALTH

The entire program of the Community School is built around the principle that "health must come first."

"Our children have from 2 to 2½ hours a day out-of-doors. We have a play period before school, in the middle of the morning, for half an hour before lunch, and for 45 minutes after school.

"Our children are served a hot lunch at school, the menus being checked by our school physician, Dr. Hugh McCulloch. Nine children and a teacher sit at a table. We don't talk about the right food—we serve it and eat it. The younger children have from 40 minutes to an hour of rest on cots after lunch. The older children have shop, art, music, or rest on cots if they need it.

"Fruit is served at school after the afternoon play period, so that children will not stop at the corner drug store.

"We feel that posture consists of good nutrition, plenty of big muscle activity, and joy in work, so we don't do anything with posture exercises as such, but we do all we can to make good posture possible.

"The follow-up of eye tests and physical examinations is very careful and thorough. The parent is contacted directly and reports back to the school what the child's own physician finds to be true. A record of all his information is kept on file. Children and teachers with colds are not allowed to be in school."

Community School, St. Louis, Mo., Federal Security Agency, U. S. Office of Education, Circular No. 191, p. 13.

—The Journal of School Health

Diagnosis

CLINICOPATHOLOGIC CONFERENCES

DEPARTMENTS OF MEDICINE AND PATHOLOGY, NEW YORK POST-GRADUATE MEDICAL SCHOOL
AND HOSPITAL, COLUMBIA UNIVERSITY

Date: February 17, 1942

Presiding: Dr. Irving S. Wright

History (Case J 61838)

DR. ROBERT McGRATH: This patient was a 41-year-old white man who was admitted to the New York Post-Graduate Hospital complaining of cough and fever of four months' duration. A sudden chill, followed by a rise in temperature to 104 F., and pain in the right side of the chest marked the onset of his illness. Strapping of the chest gave little relief. In a few days a nonproductive cough developed and he gradually improved. The patient, however, never regained his former good health and lost considerable weight. An x-ray of the chest made two months prior to admission indicated the presence of an unresolved pneumonia. One month prior to admission, he had a bout of fever and a severe chill for which he was admitted to another institution. There an x-ray examination of the chest revealed "extensive changes" in his right lung. He showed improvement after one week and was discharged. Six days before admission to the Post-Graduate Hospital the patient had an hemoptysis of 10 ounces of blood which was followed by further hemoptyses of smaller volumes. Weight loss up to this time was 16 pounds. Prior to this illness the patient denied having a chronic cough. There was an episode of questionable hematuria two years before admission.

On physical examination the patient was thin, pale, and looked seriously ill. Temperature was 100.8 F., pulse 100 per minute, and respiratory rate 20 per minute. The tongue was coated. The buccal membranes had many small, white areas with superficial ulcerations. The teeth were in poor condition. Dullness, fine moist rales, and diminished breath sounds were noted at the right base posteriorly. The apex beat was forceful and located in the fifth interspace at the nipple line. Moderately loud apical and basal systolic murmurs were heard. The apical murmur was transmitted to the axilla. Blood pressure was 110/70 mm. of Hg. Examina-

tion of the abdomen and rectum was negative. Neurologic examination revealed no significant findings.

Laboratory Data.—Urinalysis: specific gravity, 1.020, very faint trace of protein, negative for sugar and acetone; microscopic—10 to 12 white blood cells with occasional clumps. The erythrocytes numbered 4,010,000 per cubic mm. There were 6,800 leukocytes per cubic mm. and a differential count revealed 59 per cent neutrophils, 31 per cent lymphocytes, 5 per cent monocytes, and 5 per cent eosinophiles. Secretion from the right bronchus obtained through a bronchoscope was reported negative for tumor cells. Cultures showed a few colonies of green streptococci. Sputum examinations on several occasions were negative for tubercle bacilli and tumor cells.

While in the hospital, the patient continued to run a febrile course. Bronchoscopy revealed no bronchial obstruction. Therapy with sulfadiazine resulted in only slight improvement. Repeated x-ray examinations of the chest showed an increase of the infiltration in the right lower lobe progressing to atelectasis of the right lower lobe accompanied by a moderate exudate. A punch biopsy of the involved area done at the level of the ninth interspace was negative for tumor cells. A right pneumothorax was induced on the twenty-fourth day of hospitalization and was maintained by weekly injections of about 250 cc. of air. An exploratory thoracotomy was performed on the thirty-seventh day of hospitalization and sections of the 5th, 6th, and 7th ribs on the right side were removed. The right lower lobe was adherent to the posterior chest wall. No enlarged nodes were noted and the wound was closed. Following operation, bilateral bronchopneumonia developed from which the patient never rallied.

Discussion

DR. BENJAMIN I. ASHE: I am going to make my discussion as brief as possible so that we may have sufficient time for Dr. Richter's presentation.

We have a case of recurrent pneumonia with

complications, which in itself would make one suspect bronchiectasis or a malignancy. This might be all there is to the case. I should like to make one diagnosis that will cover all these symptoms including the record of hematuria. The essential picture is that of a young man who had right pleural inflammation with thickening, a mass in the right lower lobe of the lung, and hematuria two years previously.

We have physical signs suggesting possible malignancy of the lung and the x-rays make this appear more likely. I do not think that the primary lesion is in the lungs but rather that this is a case of hypernephroma with pulmonary metastasis. There was thought to be hematuria two years ago but otherwise renal function was normal. Hypernephromata occur more commonly in men and are frequently the origin of pulmonary metastases. Patients with hypernephroma may have a prolonged history of dyspnea usually associated with hematuria and good renal function. Because of the lack of renal signs and symptoms found in these cases, they are usually sent to the cardiac clinic because of the dyspnea or to the chest clinic because of the prominent chest symptoms. Sometimes they are even sent away to a tuberculosis sanatorium for several months.

Dr. Ashe's Diagnoses

Multiple attacks of pneumonia with bronchiectasis possibly secondary to hypernephroma with metastasis to lung. Bronchopneumonia.

DR. ALFRED LILIENFELD: Would you say then that the cough, dyspnea, and hemoptysis were all secondary to the hypernephroma?

DR. ASHE: In the last few years I have seen 4 cases presenting a diagnosis of hypernephroma—one a sixteen-year-old boy who had marked renal symptoms and cough; one who had dyspnea, a very large kidney, and an elevated diaphragm; one who had a cough for a long time; and one, a hospital superintendent, had chronic bronchitis. As you see, in all these cases the first signs that something was wrong occurred in the lungs and were in all 4 cases due to pulmonary metastases. Other than hematuria, there are very few renal signs with this disease. In cases of hypernephroma look for signs elsewhere, particularly in the lungs and bones.

DR. JAMES FLEXNER: How would you rule out bronchogenic carcinoma?

DR. ASHE: Bronchogenic carcinoma usually occurs in the upper part of the bronchus.

The bronchoscopic findings were also against bronchogenic carcinoma. Several cases of bronchogenic carcinoma which I have recently seen showed clubbing of the fingers quite early.

DR. WRIGHT: Any other diagnoses?

DR. VINCENT LARKIN: Lung abscess secondary to pneumonia.

DR. FLEXNER: Bronchogenic carcinoma.

DR. MAURICE N. RICHTER: What was the clinical diagnosis?

DR. WRIGHT: The clinical impression was carcinoma of the right lower lobe of the lung.

Pathology

DR. MAURICE N. RICHTER: I am not going into a discussion of hypernephroma because it was not present. The principal lesion is in the right lower lobe. Here, there is an abscess cavity 3 cm. in diameter, on the inner surface of which is a thin layer of fibrino-purulent material. The cavity communicates with one of the medium-sized bronchi. Around it is a zone of light gray, fibrotic material. There are small inflammatory areas in other parts of both lungs, often in relation to bronchi, which show distinct dilatation in all lobes. There are about 450 cc. of purulent, blood-tinged exudate in the right pleural cavity and about 200 cc. in the left. There are adhesions over the right lower lobe.

There is marked thickening and calcification of both mitral and aortic valves, producing stenosis at both orifices such as is caused by rheumatic fever.

An interesting finding, which has no bearing on the clinical aspects of the case, is a tumor in the medulla of the adrenal gland. The tumor of the adrenal proved on section to be a ganglioneuroma.

Sections through the abscess cavity in the right lower lobe show it to be merely an abscess cavity and not a tumor mass that has degenerated. Around the abscess cavity and in other parts of the lungs are some areas of inflammation.

With regard to the lung abscess, it is of interest to recall an article in the *Journal of Thoracic Surgery*¹ in which 4 cases were reported of inflammatory conditions in the lungs which simulated pleural tumors. In some ways I think these cases were similar to the one we have here. The cases appeared under other clinical diagnoses, including carcinoma of the lungs. An interesting feature of some of their cases was the fact that they also were

¹ Freedlander, S. O., and Wolpaw, S. E., Chronic Inflammatory Lesions of the Lung Simulating Bronchogenic Carcinoma, *J. Thoracic Surg.* 9: 530 (1940).

unable to differentiate between a lung abscess and other conditions and a carcinoma of the lung even during operation.

Pathological Diagnosis

Bronchiectasis, bilateral.
Abscess of lung, right lower lobe.
Lobular pneumonia, bilateral.
Operation—thoracotomy.
Rheumatic endocarditis of mitral and aortic valves, healed.

Mitral and aortic stenosis and regurgitation.
Chronic passive congestion of lungs and spleen.

Hydrothorax, bilateral.
Ganglioneuroma of adrenal gland, left.

Editorial Committee

J. SCOTT BUTTERWORTH, M.D.
MAURICE R. CHASSIN, M.D.
HERMAN O. MOSENTHAL, M.D., *Chairman*

Annual Meeting Prizes

At the 1942 Annual Meeting of the Medical Society of the State of New York two essayists received prizes and certain scientific exhibitors were given awards for merit.

The *Lucien Howe* prize went to Dr. Jacob Goldsmith, of New York, for his essay entitled "Original Studies on the Internal Dynamics of the Intracapsular Cataract Extraction."

The *Merrit H. Cash* prize went to Dr. Emanuel Goldberger, of the Bronx, for his essay entitled "The Use and Advantage of Augmented Unipolar Extremity Leads in the Electrocardiographic Diagnosis of Myocardial Infarction (Coronary Thrombosis) and Acute Coronary Insufficiency."

Among the many scientific exhibits the awards were as follows:

RESEARCH CLASS

First Award: Jacob Goldsmith, M.D., Mount Sinai Hospital, New York—"Recent Experimental Studies in Cataract Extraction."

Second Award: Hollis K. Russell, M.D., Robert C. Page, M.D., Zacharias Bercovitz, M.D., New York Post-Graduate Medical School and Hospital and St. Agnes Hospital, White Plains—"Simplified Prothrombin Clotting Time Determinations, Macro and Micro Methods."

Honorable Mention: James L. McCartney, M.D., and J. de Carvajal-Forero, B.S.S., Ph.B., roentgenologist, New York—"Radiography of Soft Tissues by Monochromatic X-Radiation."

CLINICAL APPLICATION

First Award: Lester J. Unger, M.D., and New York Post-Graduate Medical School and Hospital—"Blood Banks—Plasma Preparation and Storage."

Second Award: J. Eastman Sheehan, M.D., and New York Polyclinic Medical School and Hospital—"Plastic Reparative Surgery."

Honorable Mention: George Miller MacKee, M.D.; Anthony C. Cipollaro, M.D.; Skin and Cancer Unit, New York Post-Graduate Medical School and Hospital, Columbia University, New York—"Cutaneous Manifestations of Tuberculosis."

SPECIAL CLASS

Medical Department of the United States Navy, Rear Admiral Harold W. Smith (MC) USN—"Medical Department of the United States Navy."

Medical Preparedness

Appointments in the Navy Open to Medical Students

APPPLICANTS for appointments as Acting Assistant Surgeon (intern) are required to be citizens of the United States, to have completed at least three years of medical education in a class A medical school, and to meet the physical and other requirements as set forth in the circular of information for appointment in the Medical Corps of the Navy. Circulars are obtainable upon request to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C., or to the Director or Senior Medical Officer of Naval Officer Procurement, 33 Pine Street, New York City. Examinations for appointment as Acting Assistant Surgeon (intern) are held each year, usually during the months of June, October, and January, at all of the larger Naval hospitals and at the Naval Medical Center, Washington, D. C. Successful candidates from these examinations receive their appointments following the successful completion of their medical education.

Appointments as Acting Assistant Surgeon (intern) are for eighteen months' duration. An Acting Assistant Surgeon, after one year of Naval internship may apply for and take the

examination for Assistant Surgeon, U. S. Navy. Acting Assistant Surgeons (interns) serve a rotating internship in a Naval hospital accredited for intern training by the Council on Medical Education and Hospitals of the American Medical Association.

If an Acting Assistant Surgeon does not desire to qualify for appointment as Assistant Surgeon, U. S. Navy, after completion of one year of intern training, he may apply for appointment as Lieutenant (junior grade) MC-V(G), U. S. Naval Reserve, and continue on active duty as such during the present emergency.

Completed application forms, together with the required data, must be received in the Bureau of Medicine and Surgery at least three weeks prior to the date of examination.

Assistant Surgeons and Acting Assistant Surgeons while on active duty receive the pay and allowances of a Lieutenant (jg), which for officers without dependents is \$2,699 per year, and for officers with dependents is \$3,158 per year. On reporting for active duty, a uniform allowance of \$250 is granted.

Appointments in the Naval Reserve Open to Medical and Dental Students

Medical and dental students, premedical and preidental students are eligible for commissions as Ensigns, Hospital Corps. Volunteer Probationary, Class H-V(P) USNR. Age limits 19 to 30 years.

Requirements

Medical students of all classes of class A medical schools and premedical students who have been accepted as first-year students in medical schools accredited as class A by the Council on Medical Education and Hospitals of the American Medical Association.

Dental students of all classes of accredited dental schools and preidental students who have been accepted as first-year students in dental schools accredited as class A by the American Dental Association.

If the physical examination is made at any other activity than the Office of Naval Officer Procurement, 33 Pine Street, New York City, a report of it is forwarded to that office. Having passed the prescribed physical examination, application papers and instructions for appointment as Ensign H-V(P) USNR will be issued to candidates by the Director of Naval Officer Procurement.

Ensigns H-V(P) USNR upon graduation will be reappointed Lieutenants (junior grade), Medi-

cal Corps or Dental Corps, USNR, and those of the Medical Corps are not considered as available for active duty until the completion of at least a year's internship in an accredited hospital for intern training.

A statement from the Dean that a premedical or preidental student has been accepted for enrollment in the first coming semester, and for those already enrolled in medical or dental schools that the student is in good standing, is required.

Candidates are required to pass a physical examination by a Naval Medical Officer as the initial procedure in making an application. The physical examination may be made at any activity where a Naval Medical Officer is available: Office of Naval Officer Procurement, 33 Pine Street, New York City; Navy Recruiting Station, Albany, Buffalo, and Rochester, N. Y.; or New Haven, Conn.; and Marine Recruiting Station, Syracuse, N. Y.

Uniforms are not prescribed until ordered to active duty, when a uniform allowance of \$250 is granted. The pay for officers of the rank of Lieutenant (jg), USNR, when on active duty, is \$2,699 per year (without dependents), and \$3,158 per year (with dependents). Ten per cent increase in base pay is provided when an officer is on sea duty.

Appointment in the Naval Reserve Open to Medical Doctors

Volunteer General Service Class: An applicant must be a graduate of a medical school listed as class A by the Council on Medical Education and Hospitals of the American Medical Association

to be commissioned; otherwise he must demonstrate his professional qualifications by such written, oral, or practical examinations as may be prescribed by the Bureau of Medicine and

Surgery. An applicant must not be over 35 years of age, and must have been a citizen of the United States for ten years, and if a year's internship in an accredited hospital for intern training is not completed, active duty orders will be deferred until that date. The only rank open to applicants for Volunteer General Service Class is Lieutenant—Junior Grade.

Volunteer Special Service Class: An applicant, in addition to the professional qualifications for eligibility for Volunteer General Service Class, must demonstrate that he is a well-trained specialist in his field, by his training in his specialty, hospital and teaching positions, memberships and fellowships in medical or surgical associations, and contributions to medical literature. An applicant must be under 50 years of age and a citizen of the United States for ten years.

The rank based on age requirements for which one may apply is as follows:

Lieutenant Commander 37 to 49 years of age
Lieutenant—Senior Grade 33 to 44 years of age
Lieutenant—Junior Grade 27 to 38 years of age

Uniforms are not prescribed until ordered to active duty, when a uniform allowance of \$250 is granted. The pay for the officers of the rank of Lieutenant Commander, when on active duty, is \$3,936 per year (without dependents), \$4,348 per year (with dependents). Rank of Lieutenant is \$3,336 per year (without dependents) and \$3,792 per year (with dependents). Rank of Lieutenant—Junior Grade is \$2,699 per year (without dependents) and \$3,158 per year (with dependents). There is an increase in base

pay after each three-year period of service. Ten per cent increase in base pay is provided when an officer is on sea duty. Expense for traveling under orders at the rate of eight cents per mile is allowed. Officers and their dependents are eligible for free medical and hospital care in the Navy.

Candidates are required to pass a physical examination by a Naval Medical Officer as the initial procedure in making an application. The physical examination may be made at any activity where a Naval Medical Officer is available: Office of Naval Officer Procurement, 33 Pine Street, New York City; Navy Recruiting Station, Albany, Buffalo, and Rochester, N. Y.; or New Haven, Conn.; and Marine Recruiting Station, Syracuse, N. Y.

Having passed the prescribed physical examination and the report received in the Office of Naval Officer Procurement, application papers and instructions will be mailed to the candidate. When application papers are received in the Office of Naval Officer Procurement and found to be complete for forwarding to the Navy Department, Washington, D. C., a letter will be written to the applicant's Selective Service Board requesting deferment until final action is taken.

It is not necessary for candidates for commissions in the Navy Medical Corps Reserve to be cleared through the Procurement and Assignment Service before filing their applications.

If not convenient to come in for a personal interview, inquiries may be made by writing to the Director or Senior Medical Officer, Naval Officer Procurement, 33 Pine Street, New York City.

A REGIONAL MATERNAL AND CHILD WELFARE TEACHING DAY

... will be held at the Westchester Country Club, in Rye, New York, on Wednesday, May 20, under the auspices of Regional Maternal and Child Welfare Committees of Dutchess, Orange, Putnam, Rockland, and Westchester county medical societies; Division of Maternity, Infancy, and Child Hygiene of the State Department of Health; and the Medical Society of the State of New York.

The meeting will be called to order at 2:30 P.M. by Julian Hawthorne, M.D., regional chairman in obstetrics, Maternal and Child Welfare Committee of the Medical Society of the State of New York.

Complications of Pregnancy: Heart Disease, Tuberculosis, and Diabetes, by Vincent P. Mazzola, M.D., instructor in obstetrics and gynecology, Long Island College of Medicine, Brooklyn.

Newborn Apnea and Resuscitation: Causes, Treatment, After-Effects on Child, by Charles A. Weymuller, M.D., professor of pediatrics, Long Island College of Medicine, Brooklyn.

Procedure for Study of Maternal Deaths, by Charles A. Gordon, M.D., professor of clinical obstetrics and gynecology, Long Island College of Medicine, and director, obstetrics and gynecology, Kings County Hospital, Brooklyn.

Following each of these papers there will be a period for discussion.

A dinner will be held at 6:45 P.M. preceded by a social hour and cocktails at six o'clock. Dinner will be served at the Westchester Country Club. The price of the dinner is \$2.25 and dress is informal. The sponsoring agencies are very anxious to know how many plan to attend the sessions and the dinner. Dinner reservations must be made not later than May 18. Address communications to Julian Hawthorne, M.D., 131 Purchase Street, Rye, New York.

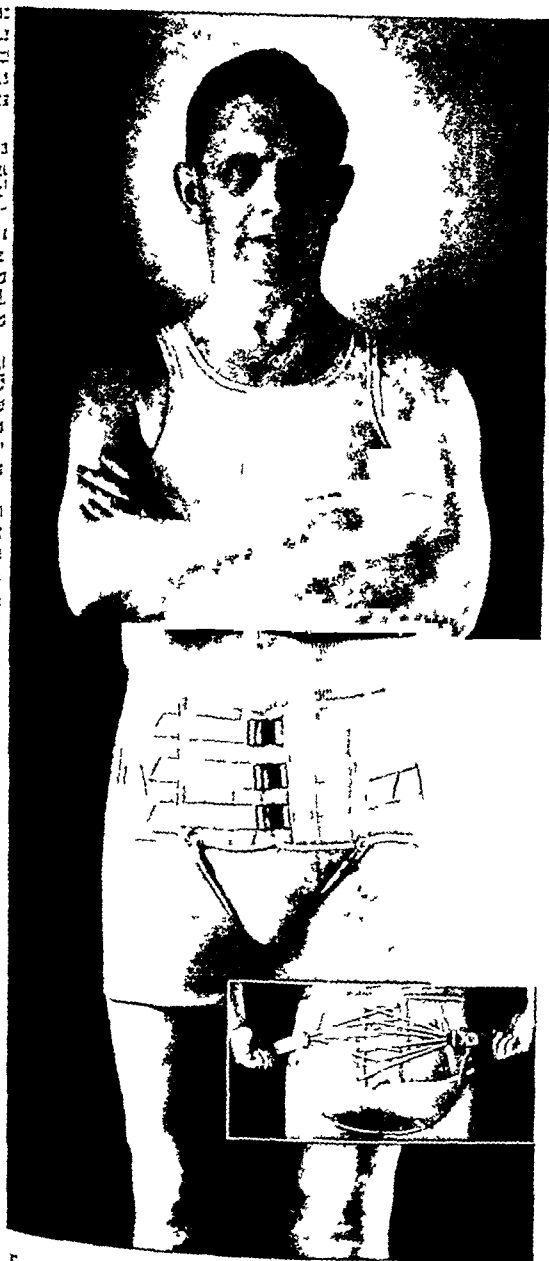
The chairman of the evening program is Reginald A. Higgons, M.D., regional chairman in pediatrics, Maternal and Child Welfare Committee of the Medical Society of the State of New York.

Importance of RH Factor in the Blood: Its Effects on Transfusion Reactions, Erythroblastosis, Miscarriages and Stillbirths, by Philip Levine, M.D., bacteriologist and serologist, Newark Beth Israel Hospital, Newark, New Jersey.

Chemotherapy, by William E. Studdiford, M.D., professor of obstetrics and gynecology, New York University College of Medicine, New York City.

CAMP
TRADE MARK

SACRO-ILIAC SUPPORTS



Front and back views of sacro-iliac support for patient of intermediate type-of-build. Single adjustment brings the belt well down around the pelvis, hooking buckles in front allow fractional adjustment. The belt is lined with flannel and comes equipped with permeal straps.

IN the conservative treatment of conditions affecting the sacro-iliac joint, such as sacro-iliac sprain or arthritis of the joint, Camp sacro-iliac supports, when prescribed by physicians and surgeons have proved valuable adjuncts.

Camp supports are easily applied and thus facilitate removal for heat, massage and other physical therapy routine.

Among the sacro-iliac supports for men, provision is made by Camp for all types of build and for many sizes in each type. Firm fabrics are used in their construction; they may be applied with or without pads as desired.

Camp supports are available at most surgical supply dealers from coast to coast where Camp-trained fitters qualify to meet the patients' requirements as recommended or prescribed by physicians and surgeons.

CAMP
TRADE MARK
Supports

S. H. Camp & Company, Jackson, Michigan

World's largest manufacturers of scientific supports

Offices in: New York; Chicago, Merchandise Mart; Windsor, Ontario; London, England

Say you saw it in the NEW YORK STATE JOURNAL OF MEDICINE

Surgery. An applicant must not be over 35 years of age, and must have been a citizen of the United States for ten years, and if a year's internship in an accredited hospital for intern training is not completed, active duty orders will be deferred until that date. The only rank open to applicants for Volunteer General Service Class is Lieutenant—Junior Grade.

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When thieving Dan Itchy Palm
Just before the crack of dawn
Robbed the drug store on the hill
He had no interest in the till.
Money didn't interest him.
He was after THIAMIN.



RICH MAN, POOR MAN, BEGGAR MAN, *Thief*,
and others, too, may require additional Vitamin B₁ daily.

*Wyeth's** BEWON* ELIXIR

"CLINICAL EVALUATION of the American dietary indicates that large groups of our population live on diets on the borderline of adequacy of Vitamin B₁."¹

When the diet requires the addition of thiamin, Wyeth's Bewon Elixir provides a pleasant means of insuring an adequate supply of this important substance, without disturbing the normal dietary routine. It also serves as an excellent vehicle for many medicaments.

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¹Reimann, H. A.: Treatment in General Medicine, 1941 Progress Volume. Phila., F. A. Davis Co., 1941

*Reg. U. S. Pat. Off.

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Medicolegal

Accident and Health Insurance

A FEW weeks ago an interesting decision was handed down by the Appellate Division of the Supreme Court of this State, in which the subject under consideration was the interpretation of a policy of accident and health insurance held by a practicing physician.*

The plaintiff was a middle-aged physician whose practice was about 90 per cent surgery and the rest general medicine. On February 9, 1940, while walking from his garage to his house carrying two medical bags, he slipped on some ice and fell backward. He felt pain in the right arm and shoulder and in his breast and chest. When he was assisted to his feet he concluded the shoulder had been dislocated, but that it had gone back into place. His condition was painful during the night and he had difficulty in breathing. He stayed in bed the next morning and the next evening went to another physician for x-rays which were negative for fracture.

Plaintiff did not consult any other physician until February 26 when, because of continuance of pain in the chest, he had another x-ray which was negative. The doctor who had taken the x-rays suggested an electrocardiogram which led to a diagnosis of a cardiac ailment.

The day after the accident the plaintiff attended three of his own patients and subsequently in the next two weeks made a few other professional visits. He also at the end of February went to his office and prepared reports on certain of his cases.

The plaintiff carried a combined accident and health policy insuring him against loss "resulting directly and independently of all other causes, from bodily injuries . . . solely through external, violent and accidental means, and against disability from disease." The policy provided it should, first, cover accidental death, second, indemnity by weekly payments against total disability or partial disability, and, third, cover disability caused by disease. The insurance company had undertaken to pay \$50 for not more than 200 weeks of continuous disability "if such injuries shall wholly and continuously disable the insured from the date of the accident and prevent him from performing any and every duty pertaining to his occupation." The policy contained provisions that for disability caused by disease, the assured should receive \$50 weekly for house confinement and \$25 weekly for disability described as nonhouse confinement.

On March 1, 1940, plaintiff filed a notice of disability with the company, describing his condition as "luxation of right shoulder joint, traumatic neuritis, left ventricular preponderance and enlargement of the heart; that the injury to his shoulder occurred on February 9 and the heart condition on February 26, and that he had been confined to the house for twelve days, with eight days of nonhouse confinement,

and that the date he first returned to work was 'partial on different dates.'" He later filed further forms regarding his disability which showed only partial resumption of any of his professional work for a time after the accident, and showed that from that time on he had done no surgical work and had taken on no new cases. He established, and it was not at any time disputed by the insurance company, that from April 1, 1940, he was totally disabled.

The plaintiff brought suit against the company on two causes of action, the first to recover \$50 a week from April 1, 1940, for total disability caused by a dislocated shoulder, coronary thrombosis, and traumatic neuritis, resulting from the accident; and second, to recover for periods of disability after April 1, 1940, due to the disease of coronary thrombosis and neuritis, which it was alleged had its onset prior to that date.

The second of the two causes of action was discontinued upon the trial by the physician who elected to stand upon his cause of action to recover indemnity for disability through accident. He endeavored to establish chiefly that the disability was due to coronary thrombosis brought on by the fall. He called a heart specialist who testified that the accident was the competent, producing cause of coronary thrombosis, but qualified the statement by testifying that the presence of that condition implied pre-existing disease in the coronary arteries. The physician who took the electrocardiograms testified to finding the condition and that it caused plaintiff to discontinue his work indefinitely. The said witness also gave the opinion that the fall caused coronary thrombosis but also said "that in order to have coronary thrombosis of the coronary artery there has got to be a coronary sclerotic condition of the coronary artery and that such a condition is a disease and that if the plaintiff sustained a coronary thrombosis in February, 1940, at that time those coronary arteries were sclerosed." A third expert gave similar testimony for the plaintiff.

The trial resulted in a judgment in favor of the plaintiff, and the insurance company appealed, contending that the evidence showed that the requirements for recovery under the accident policy were nonexistent. The Appellate Division ruled that the judgment of the Trial Court should be reversed, and the complaint dismissed. In its opinion that Court said in part:

"The burden was upon the plaintiff to establish that his disability resulted from the accident exclusively and independently of all other causes and that it was not caused directly or indirectly, wholly or partly, by disease and that such injuries wholly and continuously disabled the plaintiff from the date of the accident and prevented him from performing any and every duty pertaining to his occupation.

"From the plaintiff's own testimony it

[Continued on page 1014]

* 263 App. Div. 439.

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 Just before the crack of dawn
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[Continued from page 1012]

must be found that the injuries suffered by the plaintiff on the 9th of February, 1940, did not wholly and continuously disable him from the date of the accident and prevent him from performing any and every duty pertaining to his occupation.

"The medical testimony is to the effect that coronary thrombosis could not occur without a previously existing disease of arteriosclerosis in the coronary arteries and that the fall was an aggravation of such existing diseased condition which produced the coronary thrombosis.

"Provisions such as those contained in this policy have been construed to mean exactly what they say, which is that unless the insured is totally disabled from the date of the accident there can be no recovery.

"The plaintiff was not totally disabled between February 9, 1940, and April 1, 1940. . . . He engaged in some of the duties of his profession during that period of time. A clause of the policy provides for indemnity for disability and it requires that the disability, independently of all other causes, shall wholly and continuously disable the insured from the date of the accident from performing any duties pertaining to his occupation. This language excludes indemnity suffered in a second period following one in which there has been no complete disability."

It should be noted that this cause was decided by the Appellate Division. It is possible that our highest Court, the Court of Appeals, may yet have occasion to finally pass upon this case.

Inquiries

YOUR Counsel recently received the following inquiry:

"Dear Sir:

Have I a legal right without violating the privileged communication between patient and physician to state for the defense that I treated the plaintiff years before the cause of action and that I saw her following the action? The plaintiff had an old chronic middle ear disease for which I saw her in 1936. In 1939 I was requested by her attending physician to examine her ear, with a history of having been struck on the head by a falling sign which was followed by noises in her head and vertigo.

She claimed to have had bleeding from the ear at that time.

What are my legal and ethical rights?

Very truly yours,"

Your Counsel's reply was as follows:

"Dear Doctor:

In your letter you inquire as to your legal rights to reveal information obtained by you in connection with the treatment of a patient in 1936, who was later examined by you in connection with the care of injuries claimed to have been sustained in an accident.

"The Statute with respect to confidential communications is found in Section 352 of the Civil Practice Act, which provides so far as material:

"Physicians and nurses not to disclose professional information. A person duly authorized to practice physic or surgery, or a professional or registered nurse, shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity."

"Under the prohibition contained in said statute, a physician may not reveal information acquired in attending a patient, unless by express consent of the patient, or unless there may be spelled out an implied waiver on the part of the patient. The Court, in the situation referred to by you, might very well hold that by bringing an action for damages for physical injuries, including injuries to the ear, the patient has waived the right to compel silence with respect to her condition in 1936, as well as in 1939. However, I do not feel that you should place yourself in the position of being the judge as to whether it is proper for you to give the testimony in question.

"I would suggest that if you are called to testify in the case by the defendant, that, when questioned as to treatment, you ask the Court for a ruling as to whether you are entitled to properly reveal your entire knowledge of the case. If the Court rules that you may so testify, the said ruling would serve to protect you from any claim that you had violated your confidential relation with the patient.

Very truly yours,"

OUTLOOK FOR MUMPS CONTROL IMPROVED

An outbreak of mumps in a military establishment may lead to serious consequences in the way of days lost through hospitalization, Conrad Wesselhoeft, M.D., late Captain, Medical Corps, United States Army, Boston, and Charles F. Walcott, M.D., Major, Medical Corps Reserve, United States Army, Cambridge, Mass., declare in the April issue of *War Medicine*, published by

the American Medical Association in cooperation with the Division of Medical Sciences of the National Research Council. Present-day basic knowledge of the nature of this disease and an understanding of how some of its manifestations can be alleviated and its spread prevented should enable one to cope with it more successfully than in the past, the two men say.



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"TO PARENTS IN WARTIME"

The care of children in wartime is now gaining more attention as a result of a flood of inquiries from parents received by the United States Children's Bureau. Mostly, these inquiries were about handling the war emergency with respect to the younger members of the American families.

In answer, the Bureau has issued its pamphlet entitled "To Parents in Wartime." The information and advice given in the publication has been prepared by a group of distinguished specialists, and it may be found useful by physicians for distribution to parents of their child patients.

The principle suggestions are "prepare yourself for whatever may come" and "help your children to continue living their everyday lives."

Copies may be obtained from the Superintendent of Documents, Washington, D. C., at five cents each.

Does blood run uphill? A suggestion on technic for brushing the hair casually states "Hang your head down to get the blood into it." No reason is given for letting the blood run into the head—but it is a strong intimation that such an act must be beneficial. Not so many years ago children were warned against hanging with their heads down, yet today getting the head down below the level of the rest of the body serves as first-aid treatment in several instances. Come to think of it—we seldom get into such an unorthodox position as we mature. We sit and stand about sixteen hours a day with heads up and then sleep the balance of the day with head raised on a pillow. Can this be the reason why our faces and heads age quicker than other parts of the body? Why hair thins and falls out, skin wrinkles and eyesight dims? Maybe standing on the head once or twice a day wouldn't be such a bad prescription.

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[Continued from page 1012]

must be found that the injuries suffered by the plaintiff on the 9th of February, 1940, did not wholly and continuously disable him from the date of the accident and prevent him from performing any and every duty pertaining to his occupation.

"The medical testimony is to the effect that coronary thrombosis could not occur without a previously existing disease of arteriosclerosis in the coronary arteries and that the fall was an aggravation of such existing diseased condition which produced the coronary thrombosis.

"Provisions such as those contained in this policy have been construed to mean exactly what they say, which is that unless the insured is totally disabled from the date of the accident there can be no recovery.

"The plaintiff was not totally disabled between February 9, 1940, and April 1, 1940. . . . He engaged in some of the duties of his profession during that period of time. A clause of the policy provides for indemnity for disability and it requires that the disability, independently of all other causes, shall wholly and continuously disable the insured from the date of the accident from performing any duties pertaining to his occupation. This language excludes indemnity suffered in a second period following one in which there has been no complete disability."

It should be noted that this cause was decided by the Appellate Division. It is possible that our highest Court, the Court of Appeals, may yet have occasion to finally pass upon this case.

Inquiries

YOUR Counsel recently received the following inquiry:

"Dear Sir:

Have I a legal right without violating the privileged communication between patient and physician to state for the defense that I treated the plaintiff years before the cause of action and that I saw her following the action? The plaintiff had an old chronic middle ear disease for which I saw her in 1936. In 1939 I was requested by her attending physician to examine her ear, with a history of having been struck on the head by a falling sign which was followed by noises in her head and vertigo.

She claimed to have had bleeding from the ear at that time.

What are my legal and ethical rights?
Very truly yours,"

Your Counsel's reply was as follows:

"Dear Doctor:

In your letter you inquire as to your legal rights to reveal information obtained by you in connection with the treatment of a patient in 1936, who was later examined by you in connection with the care of injuries claimed to have been sustained in an accident.

"The Statute with respect to confidential communications is found in Section 352 of the Civil Practice Act, which provides so far as material:

'Physicians and nurses not to disclose professional information. A person duly authorized to practice physic or surgery, or a professional or registered nurse, shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity.'

"Under the prohibition contained in said statute, a physician may not reveal information acquired in attending a patient, unless by express consent of the patient, or unless there may be spelled out an implied waiver on the part of the patient. The Court, in the situation referred to by you, might very well hold that by bringing an action for damages for physical injuries, including injuries to the ear, the patient has waived the right to compel silence with respect to her condition in 1936, as well as in 1939. However, I do not feel that you should place yourself in the position of being the judge as to whether it is proper for you to give the testimony in question.

"I would suggest that if you are called to testify in the case by the defendant, that, when questioned as to treatment, you ask the Court for a ruling as to whether you are entitled to properly reveal your entire knowledge of the case. If the Court rules that you may so testify, the said ruling would serve to protect you from any claim that you had violated your confidential relation with the patient.

Very truly yours,"

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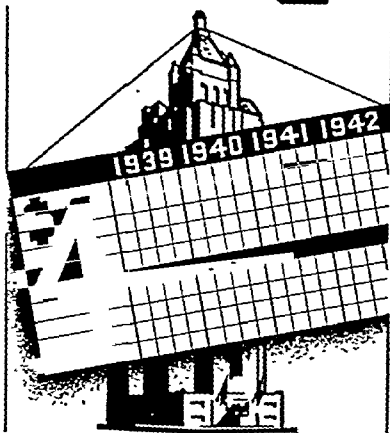
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Defeat of the Axis is not expected to materialize through starvation. The German soldier may not be receiving as palatable a diet as his American adversary but nutritionally it may be equally as good. He is fed largely a mixture called "bratling powder," composed of soybean, grain, milk, spices, herbs, vitamins, and minerals. Another ration is made up of powdered tomatoes, cheese, apples, and powdered jam—also candies containing dextrose, whey, and "Vitamin C." When there is a shortage of meat, germinating soybeans and rye are used as a substitute.

* * *

"Biting equipment" modified. Requirements for service in our armed forces formally stipulated that no man would be accepted unless he had at least 12 teeth—six masticating and six incisor teeth. A new ruling requires only that an applicant or selectee be able to eat and digest Army ration. In other words—now each man is his own Guinea Pig.

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Woman's Auxiliary

To the Medical Society of the State of New York

County News

Cattaraugus. Twenty-six members attended a luncheon at Gowanda. Dr. Tomlinson took them through the State Institution. The auxiliary members and their husbands held a dinner at the country club at Olean. After the dinner, Dr. Peale of New York gave a lecture.

Cayuga. Dr. W. W. Bauer visited the auxiliary on April 14. He stressed "the part that women play in public health particularly in time of total war." Other outstanding statements made by Dr. Bauer were: "By keeping as well as possible and following a balanced schedule, we can all help to win the war. . . . For total war, we require a very high standard of physical and emotional soundness. . . . It is encouraging from the standpoint of public health to know that 50 per cent of our young men are deemed physically fit to meet the rigorous requirements of total war."

The annual meeting was held at the home of Mrs. Louis D. Burlington in Aurora. Dr. C. Weber of Wells College gave a talk on "Child Psychology." Mrs. Carleton Bullard presided, and after conducting the routine business turned over the gavel to the new president, Mrs. A. B. Chidester.

Officers elected were: first vice-president, Mrs. Everet H. Wood; second vice-president, Mrs. F. E. Barnes; recording secretary, Mrs. E. S. Platt; corresponding secretary, Mrs. A. Cimildora; treasurer, Mrs. H. M. Jones. Mrs. Everet H. Wood and Mrs. A. B. Chidester were elected delegates to the State Convention. Gifts were presented to Mrs. G. B. Adams, retiring president of the State Auxiliary and to Mrs. Bullard, retiring president of Cayuga County auxiliary.

Erie. A luncheon was given in conjunction with the Medical Society at the Hotel Statler. Mrs. Arthur F. Glaeser, president of the auxiliary, appointed the following committees: Mrs. Albert A. Gartner, chairman of organization, assisted by Mrs. James C. Sullivan, cochairman, and Mmes. Stuart L. Vaughan, Lewis F. McLean, and Ralph M. DeGraff; Mrs. William T. Clark, chairman of the ticket committee, assisted by Mrs. William A. Barr, cochairman, and Mmes. Harold F. Brown, Roland B. Carr, Frederick G. Stoesser, Joseph D. Godfrey, William M. Howard, and Edward S. Buffum; Mrs. Walter S. Goodale, head of the reservation committee, assisted by Mrs. Stephen G. DiPasquale, cochairman, and Mmes. Clarence J. Durshordew, Edward A. Sharp, Harold B. Johnson, John T. Donovon, Carlton E. Wertz, and Walter L. Machemer; chairman of the luncheon committee, Mrs. John B. Mulholland, with Mrs. Donald G. O'Connor, cochairman. Other members of this group are Mesdames Joseph A. Tripi, Arthur D. Hennessy, Hyatt Regester, and Robert J. Striegel.

Madison. Mrs. Lee S. Preston, president of the auxiliary, is also a member of the city defense nutrition committee. Mrs. Preston and Mrs. Otto Pfaff attended the executive board meeting

in Albany. Dr. W. W. Bauer of Chicago visited Madison County. Mrs. Preston arranged for Dr. Bauer's visit. Three addresses were given by Dr. Bauer. The first was delivered at a joint meeting of the Oneidas and Rotary clubs at Hotel Oneida. The topic was "Health Problems Today and Tomorrow." The second was given at a meeting in the high-school auditorium, with all of the high-school students present. The topic was "They Ask Us Questions." The third, "Health for Total War," was given at a general public meeting at the Hotel Oneida, following a dinner of the Madison County Medical Society and the auxiliary.

Montgomery. Mrs. Alfred Madden, state legislative chairman, was guest speaker at a meeting held at the Elks Club. Mrs. Edward A. Bogdan has been elected president for the coming year. The other officers elected were: Mrs. L. M. McGuigan, vice-president; Mrs. E. B. Kelly, secretary; Mrs. Raymond Wytrwal, corresponding secretary; Mrs. A. A. Casano, assistant corresponding secretary; Mrs. A. J. Townley, treasurer. Following the meeting a steak dinner was served. Mrs. S. L. Homrighouse, retiring president, was presented with a gift as a token of appreciation for her splendid work. The auxiliary members are urged to cooperate with the Amsterdam City Hospital and St. Mary's Hospital on Hospital Day.

Niagara. A most interesting first-hand account of air raids and duties of air raid wardens in England was given to members of the woman's auxiliary, when Mrs. Alexander Reid, of Kenmore, a former air raid warden in Liverpool, England, spoke after their luncheon meeting in the Delaware Hotel, Tonawanda. As a county organization, the auxiliary is doing all it can to aid County institutions. Samples of codliver oil, prepared cereals, and baby food have been turned over to the Wyndham Lawn Home for Children. Proceeds of \$110 from a book review made possible a series of twelve lessons in oral expression. A definite sum of money has been designated to buy magazine subscriptions for the inmates of the infirmary of the Old Folks Home at Lockport. Mrs. George B. Adams, State Auxiliary president, visited Niagara County. Mrs. Adams gave a very inspiring talk, stressing the idea that even in these busy times women should never be too busy to take part in any health project, as the health of the nation is just as important in wartime as in times of peace.

Rensselaer. At a recent meeting Dr. Frederick L. Patry, psychiatrist, of Albany, addressed the society. The members are registering for a first aid course. Rensselaer County is preparing for a possible food shortage. Miss Jessie Cole, senior nutritionist of the State Health Department, spoke on "Wartime Menu Planning." Miss Cole stated that there are 200 edible weeds in New York State, which could be prepared in appetizing ways.

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"THUMB SUCKING"

Some light on child behavior, or at least on the parents' diagnosis of an offspring's queer antics, has been uncovered in a report of some 1,500 cases brought to the Children's Psychiatric Service at the Johns Hopkins Hospital.

From the Johns Hopkins study (Dr. Elliott Jaques in the April issue of *The American Journal of Orthopsychiatry*) it is apparent that a belief in "heredity" or "prenatal influence" accounted for tantrums, feeding difficulties or poor progress in school in the viewpoint of most of the parents. In many of the cases current as well as ancient scares, fads, and folklore were reflected.

According to Dr. Jaques' article, "There were parents who insisted on handing out large doses of laxative indiscriminately to their healthy children. Other parents gave patent medicines to their children weekly because they felt the children should get something." The home remedies administered for emotional difficulties are almost incredible.

Among the more common situations, parents worried because baby sucked its thumb. Considering present-day alarms over this particular form of infant behavior, Dr. Jaques remarks, "It is hard to believe that prior to 1870 the habit was regarded as so natural and harmless that it was never even mentioned in professional litera-

ture. In fact, the only evidence that anyone ever noticed it at all is to be found in the masterpieces of medieval painters who depicted little angels with thumbs in their mouths—to give them the appearance of happiness and tranquility."

That blissfully ignorant era ended fifty years ago with the warning of a Hungarian dentist on the danger of finger sucking. Freud's interpretation of the habit and later opinions of orthodontists that thumb sucking may cause a deformed jaw, combined to scare parents into the use of many "remedies" thrown on the market. Cuffs, muffs, and other "instruments of torture" have been popular as well as painting of bitter substances on the infant's fingers and tying the hands to the bedposts.

Remarks Dr. Jaques, "Of seventy-two cases, no less than thirty-four children had been restrained, scolded, beaten, shamed and otherwise punished—and had gone on sucking their thumbs."

In cases of "nervousness" or "St. Vitus" dance as some parents regarded it—sophisticated mothers wanted their children "psychoanalyzed" without knowing the nature of psychoanalysis, while unsophisticated mothers were resigned to "nerves" because "his grandfather was good for nothing."

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Books

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn, N. Y. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selection for review will be based on merit and interest to our readers.

REVIEWED

Clinical Aspects of the Electrocardiogram Including the Cardiac Arrhythmias. By Harold E. B. Pardee, M.D. Fourth edition. Octavo of 434 pages, illustrated. New York, Paul B. Hoeber, Inc., 1941. Cloth, \$5.75.

The acid test of merit of a book on electrocardiography is to use it as a reference volume while reading electrocardiograms. This was done with Pardee's new volume, and it has stood the testing process well. Each day, as tracings were being read in the department of electrocardiography, points illustrated by the electrocardiograms were looked up. In every instance information was found on the matters under discussion. The chapter on the normal electrocardiogram was helpful in settling questions arising out of slight deviations from the normal in the child and the adult. Chapter VIII, "Variations of the Electrocardiogram Resulting From Disease and Other Abnormal Influences," was the most frequently consulted and proved to contain a mine of information. In reality it is a treatise on electrocardiographic patterns and their correlation with clinical disease entities. It is especially valuable because the curves obtained with multiple precordial leads are adequately depicted. This book contains up-to-the-minute information on recent advances in knowledge in electrocardiography. It should be valuable to electrocardiographer, teacher, and student.

EDWIN P. MAYNARD, JR.

Functional Pathology. By Leopold Lichtwitz, M.D. Octavo of 567 pages, illustrated. New York, Grune & Stratton, 1941. Cloth, \$8.75.

The short preface of this valuable publication practically outlines the scope of the book. It will undoubtedly rank with the classics of modern medicine. Dealing as it does with the mechanism of symptoms and signs of disease, a subject for which modern medical men thirst, it should be received with applause. Little that is known of functional pathology today is omitted from this volume. Beginning with the general subjects of endocrinology, regulation of heat, metabolism, and body water, the author follows with an excellent chapter on the pathology of intracellular oxidation which every physician should read. The functional pathology and mechanism of the common metabolic disturbances (the thyroid, arthritis, gout, obesity, skeletal and pluriglandular diseases), as well as the mechanism of defense, are then lucidly discussed. Those especially interested in hypertension, hepatic disorders, or blood dyscrasias will find the chapters dealing with these respective subjects full of interesting discussion and information.

The reader early senses the unorthodox opinions of the author in his interpretations of the various pathologic manifestations of some of the known diseases. However, these opinions are all based upon a profound knowledge of physiol-

ogy and an accumulation of thirty years of experience in trying to correlate bedside observations with laboratory findings. The author seems to have made a special effort to keep dogma out of his expositions, despite his wide knowledge of the subjects which he treats. Hence, the relative absence of the customary stereotyped description of diseases which the reader finds in the average comprehensive standard book on any phase of medicine.

The simplicity with which the reader is guided through the complex problems of function in order to comprehend the mechanisms involved in the less well understood diseases, will be found refreshing to the average practitioner, student, and specialist alike. Here is required the ability of the teacher to amplify his simple formulas and to make it applicable for diagnosis as well as treatment.

The text is well illustrated with pictures, plates, tables, charts, and photographs. The bibliography is quite comprehensive.

S. H. POLAYES

The Man Who Lived for Tomorrow. A Biography of William Hallock Park, M.D. By Wade W. Oliver. Octavo of 507 pages. New York, E. P. Dutton & Company, 1941. Cloth, \$3.75.

It is not an everyday experience to close the covers of a book just finished and feel reluctant to put it down and thus break the spell of reverie and reminiscence which enveloped one's mind during its perusal. That will be the experience of the vast majority of the readers of this charming narrative of the life and works of a great man in medicine.

To the delightful story is added a wealth of information on the application of the progressive steps of medicine to the welfare of a great community.

The ability to present the technical aspects of bacteriology and allied subjects in a manner that holds the interest of the lay, as well as the professional, reader is indeed rare; the biographer has done this.

The history of the progress of medicine since the turn of the century is outlined in panoramic form, giving most illuminating accounts of the great epidemics that visited New York. The more important are: epidemic meningitis in 1904-1906; poliomyelitis in 1916—the extent and seriousness of the epidemic is given by the number of cases, 8,928, and the number of deaths, 2,407. Then there was the epidemic of influenza, and the sporadic outbreaks of typhoid fever, etc.

In Chapter XXVI on "The Gospel of Diphtheria Prevention," the biographer epitomizes the fundamental character of his subject in the following statement: "His ever-active mind was not concerned with partial victories won but was ever projecting itself into the tomorrow within

[Continued on page 1020]

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fact ourselves to any great extent, but we will catch on one of these days.

While it is always smart to use judgment in buying and caring for things, there is greater need for such intelligent action now. But, remember, it isn't always just a question of quantity—more often it is quality that attains the objective now sought.

America's waste in the past resulted from "cheap" products that seldom outlived the purchase price as much as it did from purchasing things that were not needed.

This, we should remember, too.

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Physician in Charge



[Continued from page 1018]

whose folds were hidden the promise of final conquest." And so the story continues for 471 pages, every one of which is of interest and exhibits a high degree of literary merit.

An unusual and commendable feature is the list of references pertaining to each chapter, and all this followed by a complete index.

The book ends with a letter written by the late Dr. Hans Zinsser to Dr. Park on the occasion of the official dedication of the William Hallock Park Laboratory. It is a fitting conclusion, for one closes the book with a feeling akin to what one felt at the end of Zinsser's *As I Remember Him*.

S. R. BLATTEIS

Operative Surgery Including Anesthesia, Pre- and Postoperative Treatment, Principles of Surgical Technic, Blood Transfusion, and Abdominal Surgery. Edited by Frederic W. Bancroft, M.D. Quarto of 1,102 pages, illustrated. New York, D. Appleton-Century Company, 1941. Cloth, \$10.

The purpose of this work is to present the surgical treatment of abdominal diseases. Symptomatology and diagnosis are included only when the differential diagnosis has a direct bearing upon the type of operation to be performed. For instance, a complete review of the etiology and differential diagnosis of the splenomegalies quite properly precedes the technic of splenectomy.

Thirty-four authors have written upon thirty-four subjects. Each subject is discussed by a man who is an outstanding authority upon it. Only the accepted operations or those that have proved to be of greatest value in the hands of the man describing them have been presented. All antiquated technics have been omitted. There are various important subjects discussed in this volume other than technic of operations—namely, a section on "Anesthesia," made up of six chapters, each written by an outstanding anesthetist. Another section deals with "Blood Transfusion," and "The Use of Blood Substitutes." About 30 pages are devoted to "Pre-operative and Postoperative Therapy," including a discussion "The Evaluation of the Patient," "Fluid and Electrolyte Disturbances," "Acid Alkalosis," "Hypoproteinemia," "Hypovitaminosis," "Shock," "Thrombosis," and "Embolism."

The reviewer was especially attracted by the section on "The Fundamental Principles of Surgical Technic." Each section is prefaced by sufficient anatomy, historical data, or surgical philosophy to put the recommended technic on a rational basis. The authors have spent a great deal of time in preparing and presenting the subjects assigned to them. Each section is really a complete treatise upon the subject rather than simply a recitation of procedure.

The book is sincerely recommended to everyone who is in any way interested in abdominal surgery.

MERRILL N. FOOTE

Essentials of Occupational Diseases. By Jewett V. Reed, M.D., and A. K. Harcourt, M.D. Octavo of 225 pages. Springfield, Charles C. Thomas, 1941. Cloth, \$4.50.

This book, which deals with the essentials of

occupational diseases, is divided into seven chapters: 1. Chemical Poisons; 2. Physical Agents; 3. Skin Lesions of Occupational Origin; 4. Occupational Diseases of the Lungs; 5. Malignant Disease Associated with Occupation; 6. Occupational Diseases Due to Infections; 7. Functional Disturbances Associated with Occupation.

The chapter on chemical poisons occupies approximately one-half of the book. In their discussion of each substance listed as a chemical poison the authors mention briefly the occurrence in industry, the symptoms, and the treatment.

There is an adequate bibliography.

IRVING GRAY

Surgical Diseases of the Spinal Cord, Membranes, and Nerve Roots. Symptoms, Diagnosis, and Treatment. By Charles A. Elsberg, M.D. Quarto of 598 pages, illustrated. New York, Paul B. Hoeber, Inc., 1941. Cloth, \$14.

The present volume, although containing much of the material already published by the author in *Diseases of the Spinal Cord* (1916) and *Tumors of the Spinal Cord* (1925), is, however, more than a revised edition of his previous books. It contains the results of the considerable additional experience of the author with spinal cord diseases since his last volume on the subject, as well as two very erudite chapters on the roentgen-ray diagnosis and the pathologic anatomy of these lesions by Drs. Cornelius G. Dyke and Abner Wolf, respectively. One may thus turn to this 600-page tome for the latest as well as most authoritative views on the various aspects of the subject. The printing and the halftones are also excellent.

LEO M. DAVIDOFF

The Foot and Ankle: Their Injuries, Diseases, Deformities and Disabilities with Special Application to Military Practice. By Philip Lewin, M.D. Second edition. Octavo of 665 pages, illustrated. Philadelphia, Lea & Febiger, 1941. Cloth, \$9.00.

The first edition of Dr. Lewin's book appeared in 1940. The fact that a second edition appears so soon attests to the reception of this work, and the place it has attained in medical literature.

Dr. Lewin states that world war conditions have led him to accentuate military aspects of the foot. Considerable space in this edition is devoted to injuries and wounds of the foot and their treatment as suffered in actual combat.

The second edition gives us a text fully up to the high character of the first edition. It should prove useful in military surgery.

J. C. RUSHMORE

Diseases of Women. By Harry S. Crossen, M.D., and Robert J. Crossen, M.D. Ninth edition. Quarto of 948 pages, illustrated. St. Louis, C. V. Mosby Company, 1941. Cloth, \$12.50.

This new ninth edition is on the same high plane as previous editions of this well-known book. As time goes on, the diagnosis and treatment of gynecologic disorders advance with the increased knowledge of their physiology and pathology. In this new book the authors have

[Continued on page 1022]

NEW YORK STATE JOURNAL OF MEDICINE

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Editorial

Emergency Medical Service

The long period of organizational work of the Medical Division of the Office of Civilian Defense has not received the full recognition and commendation it merits. Charged with the grave responsibility of the preparation of plans for emergency medical service and with the maintenance of liaison with other federal agencies concerned with public health and medical care, it has toiled unremittingly and with the benefit of the best skill and available advice to produce an organization that could be adapted to the use and necessities of every region of the United States.

Speaking before the 136th Annual Meeting of the Medical Society of the State of New York, H. van Zile Hyde, M.D., Senior Surgeon, U.S.P.H.S. (R), Medical Officer, Second Civilian Defense Region, said of the responsibilities of every physician in the state that no matter what his peacetime specialty may be, he is a doctor . . . able to do well those things which the public expects him to do well. There is placed upon physicians the necessity of correlating their activities, as physicians responsible for the care of casualties, with all other emergency services with which they must function. It means that they, as an essential part of the Citizens' Defense Corps, must, during action, place themselves under the orders of the local director of Civilian Defense, just as their colleagues in the Armed Forces must subject themselves to responsible au-

thority. This they can do freely because the local medical profession in each community has borne the responsibility for the organization of the Emergency Medical Service, and a representative of the local profession will guide and assist the director in conducting field operations during action.

Effective protection of the civilian population during such periods requires the full participation of every physician in the area under attack, as well as that of large numbers of physicians in related areas. The present situation, in which we do not know whether, where, or when such attacks may occur in this country, challenges the entire profession to prepare itself for any conceivable eventuality, Dr. Hyde said.

It is heartening to learn from the New York State Health Preparedness Commission, continued Dr. Hyde, that there are now 2,952 physicians, 4,392 trained nurses, and 3,415 auxiliary hospital-trained workers, or a total of 10,759 qualified persons, enrolled in the field casualty service in this state, and that there are 1,080 casualty stations now designated.

The commission reports also that this service is equipped with 1,069 kits of surgical instruments and supplies for field use, 8,332 stretchers, and—excluding New York City, for which all figures are not yet available—5,827 cots, 10,408 blankets, 792 ambulances, and 2,976 other vehicles. We can say, then, that in New

[Continued from page 1020]

presented these advances in a practical manner so that they may be used effectively and with understanding of the principles on which they rest.

Since the last edition was published in 1935, much has been learned about hormones and vitamins with their chemical and physical and vital reactions. This more or less recent knowledge has been clearly set forth in a chapter on the subject, and it is presented to the reader in a form that can be easily used in the treatment of gynecologic disorders.

Much of the text has been rearranged and revised. New additions have been made and many new illustrations have been added. In this edition of an old and standard gynecologic textbook, the authors have given us a book in which the latest thought is set forth in regard to etiology, physiology, pathology, and treatment of gynecologic disease.

This new edition excels those of previous years, and it is a high standard textbook for student and practitioner.

WM. SIDNEY SMITH

William Henry Welch and the Heroic Age of American Medicine. By Simon Flexner and James T. Flexner. Octavo of 539 pages. New York, The Viking Press, 1941. Cloth, \$3.75.

The present volume is one that will be eagerly read by most doctors since it presents the story of one of the most important figures in the history of American medicine, William H. Welch. The career of Welch is also the story of the first pathology laboratory, the beginning of the Johns Hopkins Hospital, and the establishment of the first Institute of the History of Medicine at Johns Hopkins University School of Medicine. On the whole the present volume is a satisfactory biography and is recommended to the medical reader.

GEORGE ROSEN

The Treatment of Burns. By A. B. Wallace, M.B. (Oxford War Manuals.) 16mo of 113 pages, illustrated. New York, Oxford University Press, 1941. Cloth, \$1.50.

This is the second of a proposed Oxford War Manuals of 1941. The first dealt with the *Early Treatment of Wounds*. A third will treat of *Wartime Psychiatry*. They appear in convenient pocket size, with a stiff cover and an adequate index.

In this book an attempt has been made to formulate an easily adaptable method to treat the various types of burns found in wartime in the civilian and military population. Shock and the toxemias of burns are fully considered, with the indications for appropriate treatment and the resulting improvement in mortality and morbidity. The limitations of the so-called "tanning treatment" are explained as are the methods of preventing the deformities that may follow the "major" burns. Reference to the use of certain products familiar to the English, such as eusol and albidic paste, may be a little confusing to the American doctor, but the context or the index offer a ready explanation. If other volumes are equally descriptive and instructive, the set should be made generally available.

JOSEPH RAPHAEL

Pre-eclamptic and Eclamptic Toxemia of Pregnancy. By Lewis Dexter, M.D., and Soma Weiss, M.D. Octavo of 415 pages, illustrated. Boston, Little, Brown & Company, 1941. Cloth, \$5.00.

This monograph discusses in detail the perplexing subject of toxemia of pregnancy. Strangely enough, it comes from the Department of Medicine at Harvard and not from the Department of Obstetrics. Soma Weiss, reviewing his experience as a medical consultant to the Obstetrical Service of the Boston City Hospital, has made a valuable contribution from the "Thorndike."

The authors believe that the evidence at present points to the placenta as the intra-uterine factor responsible. The mechanism is not known in detail, but a chemical (hormonal) mechanism is suspected.

All the possibilities of treatment are discussed—a few in detail. Here the authors are not on such firm ground, and one need not believe all that has been set down; yet this is a book of the utmost importance and quite the best book on this subject which has yet been written. The text is extraordinarily clear and simple, and obstetricians will admit that this thoughtful study by physicians interested in cardiovascular and renal disease is a distinct contribution. No one should fail to read it.

CHARLES A. GORDON

School Health Services. A Study of the Programs Developed by the Health Department in Six Tennessee Counties. By W. Frank Walker, Dr. P.H., and Carolina R. Randolph. Octavo of 172 pages. New York, The Commonwealth Fund, 1941. Cloth, \$1.50.

This book is devoted to a study of school health services analyzed from the point of view of administrative and technical practice and of the results obtained. The material used as a basis for the investigation was the school health department records of some 58,000 children in six representative counties of the state of Tennessee during the years 1930 to 1936. The uniformity in both procedure and recording used by this state in its school health work provided a suitable opportunity for this type of analysis.

The purpose underlying the study was to determine the effectiveness of the school health services so that suggestions for modification and improvement might be formulated. To this end the authors have subjected the large statistical data assembled to a remarkably well-directed analysis. The "longitudinal and cross-section views of child health" provide needed enlightenment on several aspects of a much disputed subject. On the findings the authors present, their deductions seem logical and should have a definite bearing on future planning in the field of school health service. Important emphasis is placed on the development of children free from defects at the time of their school entry by systematic attention to the earlier age groups rather than on the detection of these defects during the years of school life.

By this important study the Commonwealth Fund has again contributed to the furtherance of fundamentals for the health program of the future.

JOSEPH C. REGAN

Terry M. Townsend, M.D.

Dr. Terry Monroe Townsend died May 16, 1942, after a short illness of pneumonia, in the West Side Hospital and Dispensary in New York City of which he was a former president.

Active until shortly before his decease in his sixty-sixth year, he suddenly collapsed on May 14 after attending a meeting of the Committee on Grievances of the New York State Department of Education. Born November 2, 1876, at Jeffersonville, Indiana, of Elam Barsley Townsend and Eliza Rebecca Townsend (nee Terry) he was graduated from the University of Louisville, 1894, and took his medical degree in March, 1897. He practiced in Jeffersonville from 1897 to 1898. He then became a hospital steward in the Spanish-American War, serving until the end of that year. He moved to New York City in 1899, where he practiced urology until the time of his death.

He was a founder of the American Urological Association and was its treasurer for three years. Later, in 1911, he became president of the New York Urological Society. In 1930, he was

president of the New York Medico-Surgical Society, and in 1933 was elected president of the Medical Society of the County of New York.

He was president of the First District Branch of the Medical Society of the State of New York in 1936; trustee of the New York Physicians' Mutual Aid Association, 1927-1937; trustee of the Medical Society of the County of New York, 1934-1938; and became president of the Medical Society of the State of New York in 1939. His life was one of distinguished service to the medical profession.

A fellow of the American College of Surgeons and diplomate of the American Board of Urology, he was also a lover of the outdoors, devoting what time he could to hunting, fishing, and boating. His demise will be regretted by all who knew him in whatever capacity. Good friend and physician, a good fighter for the advancement of the interests of the medical profession, he has earned his rest.

*Home is the sailor, home from the sea,
And the hunter home from the hill.*

More Sweeping Changes

What is there about the practice of medicine that attracts the omniscience of the journalistic field marshals, the hair-trigger fire of the editorial emancipators, the fury for federalization of the reportorial pencil pushers? There must be something.

It appears that physicians, who only work at the practice of medicine, are apparently too close to it, in the opinion of Journalists, to know much about it. The same lack of perspective, the Journalists seem to feel, influences the county, state, and national medical societies. These societies are largely made up of

practicing physicians, which seems to be their chief fault.

On September 8, 1941, the New York Times prescribed expertly for American medicine. . . .¹ It called for "a sweeping change in the pattern of medical practice," along with a number of other proposals in a type of Rx which is known to the trade as a "shotgun prescription." Now, on April 22, 1941, P.M., an enterprising five-cent local paper, carried an article by Albert Deutsch, captioned "Medical Care," with the subhead "Sweeping Changes Required to Meet Wartime Needs." Apparently, many of our local editorial writers and feature scribes have been conditioned at some

¹ See New York State J. Med. 41: No. 20: 2007 (Oct. 15), 1941.

York State there is now an effective field casualty service ready and equipped to go into operation. There remains only the need for perfecting it through repeated drills and exercises.

The War Emergency Act, effective in

this state since the first of May, affords much needed assistance in forwarding the work of those who have toiled day and night to perfect the organization and effective training of the civilian protection service.

Now for Action

Possibly the most significant single action taken by the House of Delegates at the 136th Annual Meeting of the Medical Society of the State of New York was its unequivocal sponsorship of three organizations providing nonprofit medical expense indemnity insurance in this state.

By an overwhelming vote it was resolved "that the Medical Society of the State of New York now officially approve, sponsor, and support in every manner possible the three corporations which have conformed to the principles prescribed by organized medicine for the protection of the interests of both the public and the profession in the organization and operation of medical insurance, namely, The Western New York Medical Plan, Inc., of Buffalo; the Medical and Surgical Care, Inc., of Utica; and the Medical Expense Fund of New York, Inc., of Brooklyn . . . and that notice of this action of the House of Delegates be given to all county medical societies of the State of New York, and that each one be urged to cooperate in every practical manner toward the accomplishment of the successful operation of voluntary nonprofit cash indemnity insurance by these organizations, in order that a system of medical insurance under administrative control of the medical profession shall be developed and maintained."

Speaking at the Conference on Medical Service Plans in Chicago, on February 14, Mr. J. D. Laux, of the Michigan Medi-

cal Service, brought out the fact that there were in the United States thirty-three voluntary, nonprofit medical service plans operating in nine states, with a total enrollment in excess of 750,000 subscribers, and that in thirteen other states programs were well organized for the inauguration of medical service plans. This is surely a good beginning based on sound planning, careful financing, and the necessarily slow collection of sufficient actuarial data which, for medical expense prepayment insurance, did not exist until recently. Cumulative experience, however, now seems to justify a more rapid expansion of this type of medical service, at least in the State of New York, in the opinion of the representatives of the medical profession.

However, for all that whole-hearted support of the organized profession can mean to the furtherance of this kind of nonprofit medical service, a great deal remains for each individual physician to do. People must be informed that such prepaid medical service by these three voluntary nonprofit corporations is available, that each individual physician is a potential professional member of one of the corporations, and that the medical profession itself stands squarely behind them to assure the continuity and the quality of the medical service to be rendered the subscribers.

Contact your regional plan, if you have not already done so, then get behind and push.

SCHIZOPHRENIC BRAIN METABOLISM IN THE COURSE OF INSULIN SHOCK TREATMENT*

With Special Reference to Blood CO_2 and the Tendency to Convulsions

JOSEPH WORTIS, M.D., and WALTER GOLDFARB, M.D., New York City

GLUCOSE is the chief fuel of the brain. In 1932 Gerard and Schachter¹ demonstrated that a fall in blood sugar causes a fall in the glucose uptake of the brain. Damashek and Myerson² later demonstrated that brain metabolism is diminished when the brain is deprived of its main foodstuff during insulin hypoglycemia. This observation was confirmed and elaborated by the studies of Himwich, Bowman, Wortis, and Fazekas³ on patients undergoing insulin shock treatment. The present communication presents the data of a large number of further observations on schizophrenic brain metabolism before and after a course of insulin treatment, as well as during insulin coma, with a discussion of some special questions that have arisen with regard to their significance.

Method

The metabolism of the brain was studied in 45 young male schizophrenic subjects before treatment with insulin,[†] during deep insulin coma (three and one-half to four and one-half hours after the insulin injection), and again after a series of thirty or more shocks. Simultaneous blood samples were taken from the brachial or femoral artery and from the internal jugular vein (Myerson, Halloran, and Hirsch⁴), and analyzed for glucose (Hagedorn and Jensen⁵), and oxygen and carbon dioxide (van Slyke and Neill⁶). The peripheral circulation time was estimated by the sodium cyanide method of Robb and Weiss.⁷ A number of observations were also made on the same patients on days in which no treatment was administered.

Results

The observations on blood oxygen are presented in Fig. 1. There are no significant differences between normal and schizophrenic subjects so far as the oxygen content of the arterial and the internal jugular blood samples

are concerned. It may be seen, however, that during insulin coma there is a marked reduction of the arteriovenous O_2 difference. Although there is a slight fall of the arterial oxygen content during coma, this reduced arteriovenous O_2 difference is principally due to a higher concentration of oxygen in the internal jugular vein during coma. The peripheral circulation time showed no significant change. After a course of thirty or more insulin treatments, the oxygen content of the arterial and internal jugular blood and the arteriovenous O_2 difference were found to be within normal limits.

Observations on the CO_2 content of the blood are presented in Fig. 2. It may be seen that approximately 75 per cent of the CO_2 values in the untreated schizophrenic patients are within normal limits, and the remaining values are much lower than normal. During coma there is a significant increase of the arterial CO_2 content. After a course of thirty or more shocks, the CO_2 content of the arterial and internal jugular blood was found to be within normal limits.

The course of the arterial CO_2 content during insulin hypoglycemia, both with and without convulsive seizures, is presented in Fig. 3. These curves are based on determinations made on several patients. It may be seen that the CO_2 content rises significantly shortly after the insulin injection, and in the absence of a seizure remains at a high level until the coma is terminated with glucose. In the cases that develop convulsive seizures, the CO_2 content was found to rise markedly immediately preceding the seizure. As the seizure subsides there is a period of hyperpnea which results in a marked fall of the CO_2 content.

A summary of the data is presented in Table 1. In 11 cases in which glucose determinations were made after a course of treatment with insulin, there was a diminution of glucose uptake (from 11 to 6 mg. per hundred cc.) but statistical analysis reveals that the change is of questionable significance.

Discussion

Estimation of Brain Metabolism from Arteriovenous Differences.—In order to estimate

From the Division of Psychiatry, Bellevue Hospital, and the Department of Psychiatry, New York University College of Medicine, New York City.

* Aided by a grant from the Havelock Ellis Fund for Psychiatric Research.

† We acknowledge with thanks a gift of crystalline insulin from Eli Lilly and Company

time in their lives by employment, perhaps as broom salesmen, judging from the repetitious pattern of their proposals, or have been subjects for "occupational therapy" as broommakers. This occupation passes the time, we are informed, as well as any other—pleasantly, and it does not require an inordinately high I.Q. However, we digress.

"The top kicks of organized medicine [physicians to you]¹ are waging a desperate fight to retain the medical status quo, war or no war," says P.M. Why not, we ask? We have been through wars before, field marshals; they come and they go; when you are older and less excitable, you will know that, too. But don't forget, field marshals, that our usual responsibilities continue unabated, wars or no wars. True, wars accentuate them, increase them, but they do not alter them. We have only our experience to guide us of course, but, such as it is, it will have to serve. The medical status quo is very simple; it consists in maintaining the highest quality of medical service to the public of which the profession is capable. A little more difficult under war conditions, naturally, but the same old status quo, field marshals. Remember that when you write: "The answer is obvious . . . Medical care as presently organized is not geared to emergency needs." Do you really believe, field marshals of the press, that the President's proposal "that sickness and disability benefits for workers be added to the federal social security system" is the obvious answer? If physicians thought

so, why should they oppose it, field marshals? Do you think that federal supervision and subsidy of the press would aid in gearing journalism as presently organized to meet emergency needs? We should not presume to advocate it, even if you thought so, because our business is the practice of medicine, the practical business of providing the best medical service of which the profession is capable. It takes all of our time.

"Tens of thousands of doctors," says P.M., "are leaving civil practice to enter military service. The call has gone out for 50,000 more trained nurses for our armed forces." That is true. The loss to civilian practice of so many physicians and nurses is a serious matter. There never are a great number of either in the general population who are trained and able to produce the kind of medical service on which the profession, obstinately, if you will, insists.

In the opinion of organized medicine, field marshals of the press, these physicians and nurses are the only qualified personnel able to provide safe, competent medical service to the public. With all due respect to other opinion, is it reasonable or not that these physicians should be permitted to carry on in the way which they have found to work practically and safely in the public interest? Or shall the admitted difficulties of the proper performance of their work under war conditions be increased by submitting the sound and tested structure of their organization to the vagaries of untried, theoretically attractive but unproved, political management? You answer that one, field marshals. To us, it seems obvious.

¹ Our Note. The war is definitely altering the journalistic attitude toward everything.—Ed.

Registration of Diathermy Apparatus Ordered by Federal Communications Commission

All possessors of apparatus designed, constructed, or used for generating radio frequency energy for therapeutic purposes, described generally as diathermy apparatus, must register each such device with the Federal Communications Commission in Washington, D. C., by June 8, under Order No. 96, promulgated by the commission on May 18.—See *J.A.M.A.* 119: 354 (May 23) 1942.

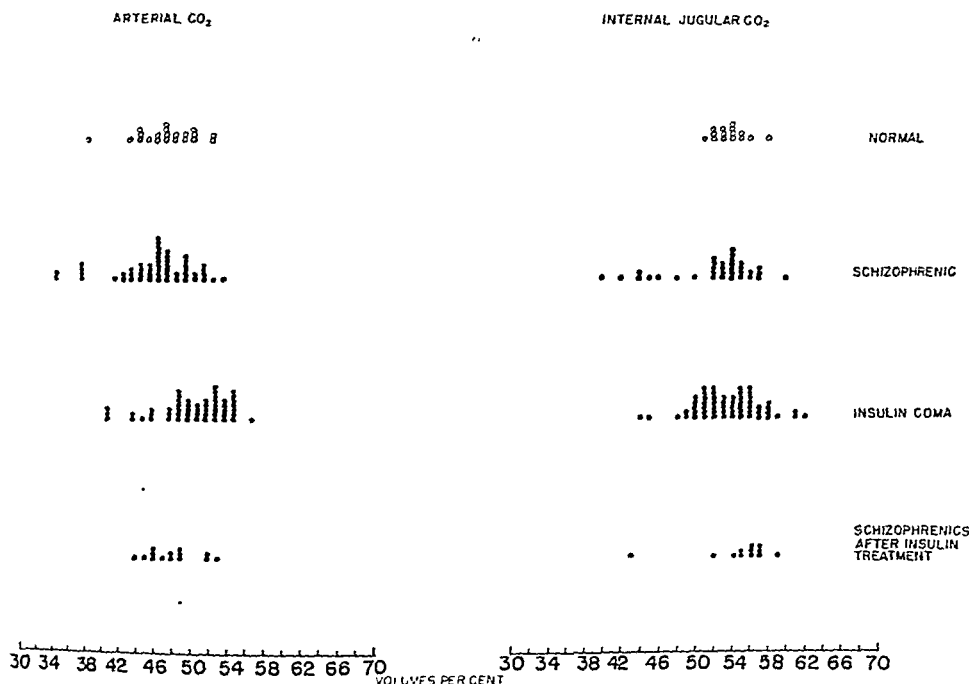


FIG. 2. Carbon dioxide content of the blood in normal and in schizophrenic subjects.

vertebral veins, and since the diameter of these veins remains nearly constant, changes of the linear rate of internal jugular blood flow can be regarded as a reasonably safe measure of changes in volume and rate of flow through the brain, regardless of the many diverse influences to which this rate of flow may be exposed.

Thus, in actual practice, internal jugular blood flow and arteriovenous differences should suffice to give a fairly clear picture of the oxygen uptake of the brain. The slower or unchanged peripheral circulation rate, and the demonstrably unchanged or slower jugular blood flow, together with the markedly diminished oxygen uptake, support the conclusion that brain metabolism is markedly diminished in insulin coma. Diminution of the arteriovenous differences to less than half the normal value could be explained by a change of blood flow alone only if the rate of flow were doubled. There is no reason to assume so extraordinary an increase in brain blood flow during insulin coma, and all available evidence is against it.

The Diminished Brain Metabolism of Insulin Coma.—We have seldom found an arteriovenous oxygen difference exceeding 5 volumes per hundred cc. during insulin coma, and a value below 5 volumes per hundred cc. was

seldom observed after arousal. This value of 5 volumes per hundred cc. would thus seem to mark a critical level between coma and arousal.

The correlation between arterial blood sugar and the brain uptake of oxygen is made clear in Fig. 4. It should be emphasized, however, that this correlation applies only to the groups of cases studied in this and one previous report.¹² In certain other conditions, such as irreversible coma, the oxygen uptake of the brain remains low, in spite of abnormally high blood sugar levels.¹³ The correlation between oxygen uptake and blood sugar is much closer than that between glucose uptake and blood sugar, presumably because the brain tissue carries reserves of carbohydrate but not of oxygen. For possibly the same reason there is no intimate correlation between the oxygen and the glucose uptake of the brain, though the average glucose uptake in insulin coma amounts to about half the resting value.

Blood CO₂ and the Tendency to Seizures.—It will be noted that the uncompensated rise in arterial CO₂ occurs very early in the course of hypoglycemia, generally at least two hours before the development of coma, and long before the flushing, perspiration, twitchings, and dystonic movements characteristic of deep hypoglycemic shock appear. This apparent depression of the function of the medullary

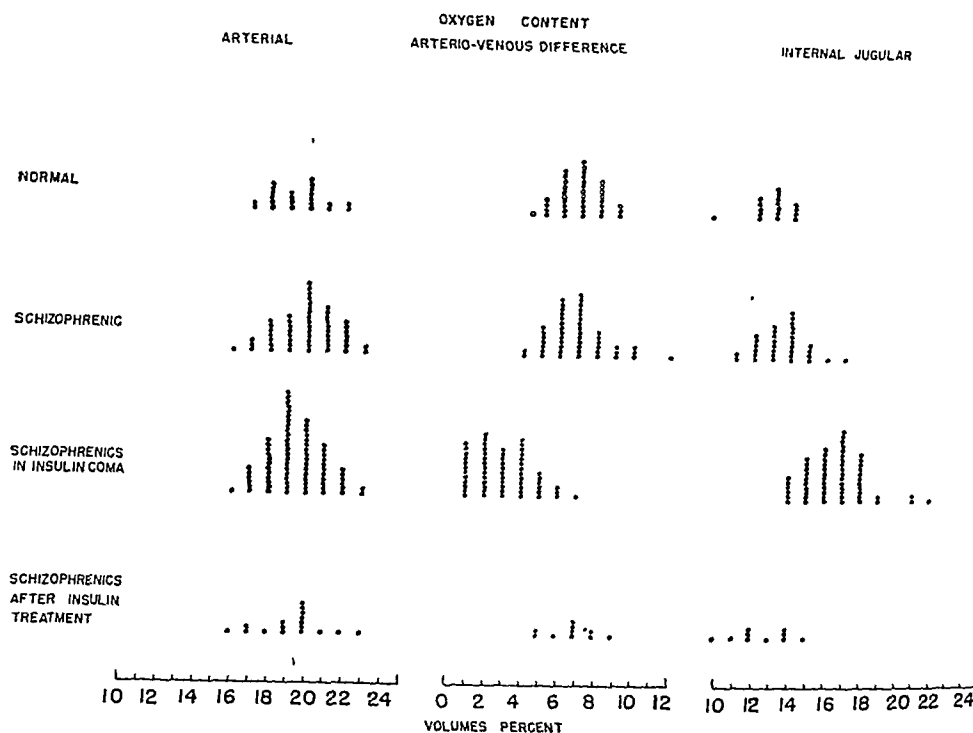


Fig 1. Oxygen content of the blood in normal and schizophrenic subjects. Data on normal subjects from the report of Williams and Lennox are indicated by circles.

the uptake or release by the brain of any blood constituent, it is necessary to determine not only the arterial and venous concentrations of that constituent, but also the rate of flow of a given volume of blood through the brain. The oxygen uptake, for example, thus becomes dependent on the three factors of arteriovenous difference, linear rate of flow, and total diameter of the blood vessels entering or leaving the brain, and should be expressed in units of gas volume per unit of time for the brain as a whole. Since the amount of brain tissue involved varies from case to case, this uptake per unit of time must also be correlated to the total weight of the brain before any conclusions regarding the metabolic activity of the brain tissue can be reached. Such accuracy is only possible in perfusion experiments in which rate and volume of flow can be regulated, and where the total weight of the brain can be determined. Under the experimental conditions in which our own observations were made, we would be entitled to conclude that brain metabolism is markedly diminished during insulin coma only if the other variable factors remained reasonably uniform.

Since patients from the same groups were

used as controls, brain weight can be assumed to be a constant. What data are available to indicate changes in the two remaining factors, blood flow and diameter of the afferent or efferent vessels? According to Loman and Myerson,⁸ blood flow through the internal jugular vein is unchanged or slightly diminished during insulin hypoglycemia. Leibel and Hall⁹ in animal experiments found no change in cerebral blood flow during hypoglycemia unless convulsions occurred. In collaboration with Drs. Himwich, Daly, Bowman, and Fazekas,¹⁰ we have made simultaneous observations of blood flow and arteriovenous O_2 difference in patients during insulin hypoglycemia. The arteriovenous O_2 difference invariably fell, while the blood flow showed a tendency to progressive slowing during coma. Since cerebral blood flow is mainly dependent on systemic blood pressure (Forbes and Cobb¹¹), these observations accord with what is known to be the typical effect of insulin shock on blood pressure, which generally shows lower diastolic and higher systolic values during coma.

Since, furthermore, all blood leaving the brain must pass through the internal jugular or

ARTERIAL CO₂INTERNAL JUGULAR CO₂

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NORMAL

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SCHIZOPHRENIC

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INSULIN COMA

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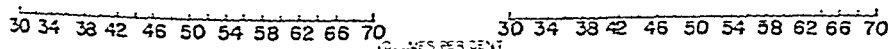
SCHIZOPHRENICS
AFTER INSULIN
TREATMENT

FIG. 2. Carbon dioxide content of the blood in normal and in schizophrenic subjects.

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Thus, in actual practice, internal jugular blood flow and arteriovenous differences should suffice to give a fairly clear picture of the oxygen uptake of the brain. The slower or unchanged peripheral circulation rate, and the demonstrably unchanged or slower jugular blood flow, together with the markedly diminished oxygen uptake, support the conclusion that brain metabolism is markedly diminished in insulin coma. Diminution of the arteriovenous differences to less than half the normal value could be explained by a change of blood flow alone only if the rate of flow were doubled. There is no reason to assume so extraordinary an increase in brain blood flow during insulin coma, and all available evidence is against it.

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The correlation between arterial blood sugar and the brain uptake of oxygen is made clear in Fig. 4. It should be emphasized, however, that this correlation applies only to the groups of cases studied in this and one previous report.¹² In certain other conditions, such as irreversible coma, the oxygen uptake of the brain remains low, in spite of abnormally high blood sugar levels.¹³ The correlation between oxygen uptake and blood sugar is much closer than that between glucose uptake and blood sugar, presumably because the brain tissue carries reserves of carbohydrate but not of oxygen. For possibly the same reason there is no intimate correlation between the oxygen and the glucose uptake of the brain, though the average glucose uptake in insulin coma amounts to about half the resting value.

Blood CO₂ and the Tendency to Seizures.—It will be noted that the uncompensated rise in arterial CO₂ occurs very early in the course of hypoglycemia, generally at least two hours before the development of coma, and long before the flushing, perspiration, twitchings, and dystonic movements characteristic of deep hypoglycemic shock appear. This apparent depression of the function of the medullary

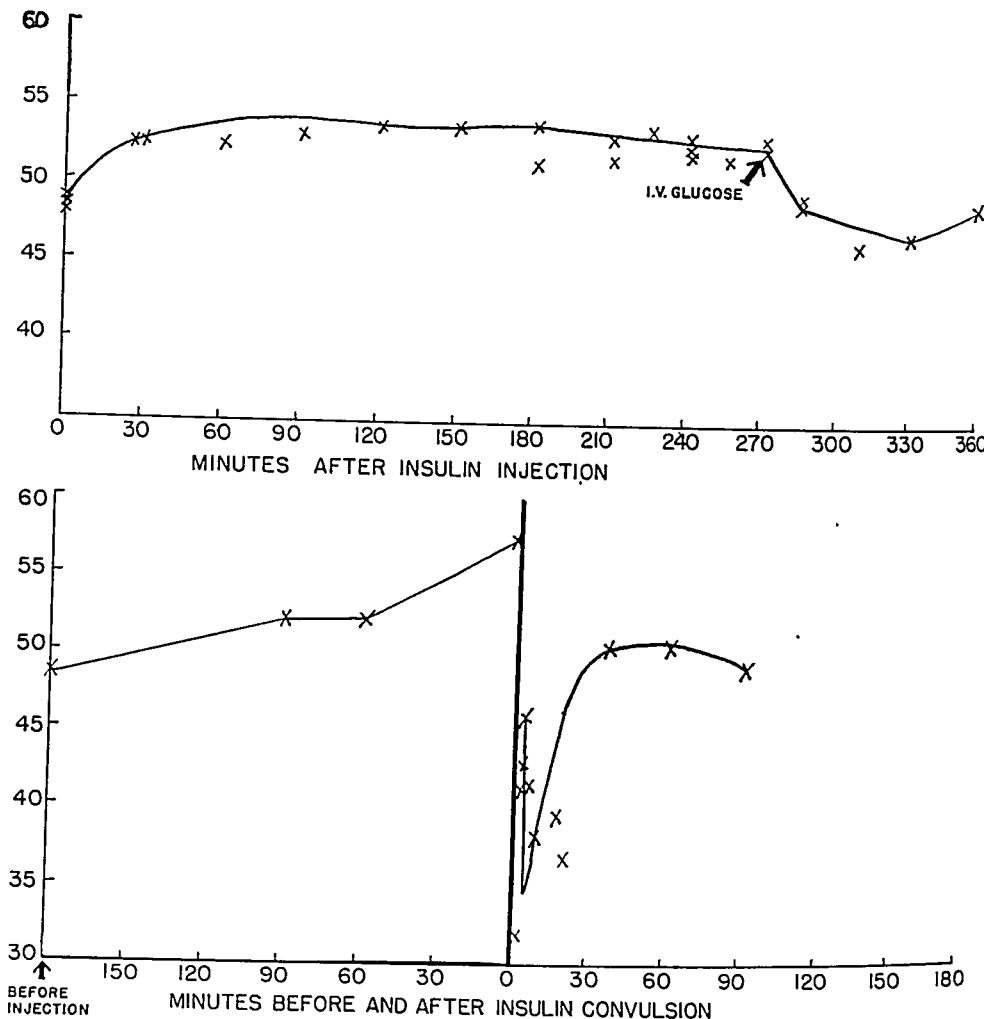


FIG. 3. Arterial carbon dioxide content during (a) a single insulin hypoglycemic coma and (b) hypoglycemic coma complicated by convulsive seizures. (Based on determinations made on several patients.)

respiratory center occurring early in the hypoglycemia does not accord with the widely held belief that the earlier symptoms of hypoglycemia may be attributed merely to cortical depression (Frostig¹⁴). The simultaneous occurrence of cortical and medullary depression suggests instead that the brain reacts as a unit to the hypoglycemia, with new constellations of symptoms appearing at each successive stage of hypoglycemia without reference to any anatomically circumscribed localization.

According to our data, the CO₂ of the blood not only rises during insulin coma but shows a rise after a course of insulin shock treatment as well. But whereas the rise during insulin coma is most marked in the arterial blood and

is associated with a diminished CO₂ exchange, the rise after a course of insulin treatment is more marked in the blood drawn from the internal jugular vein and is associated with a normal total brain metabolism. Inasmuch as the CO₂ content of internal jugular blood probably closely approximates the CO₂ content of the brain tissue, this change is of particular interest and importance. The data of Gibbs, Lennox, and Gibbs,¹⁵ as well as those of other workers, show that the CO₂ content of internal jugular blood of normal individuals fluctuates within fairly narrow limits ranging from 51 to 56 volumes per hundred cc. In comparison with other groups of cases we have studied, the average value of 51.5 per hundred

13 VOLUMES PER CENT OXYGEN UPTAKE

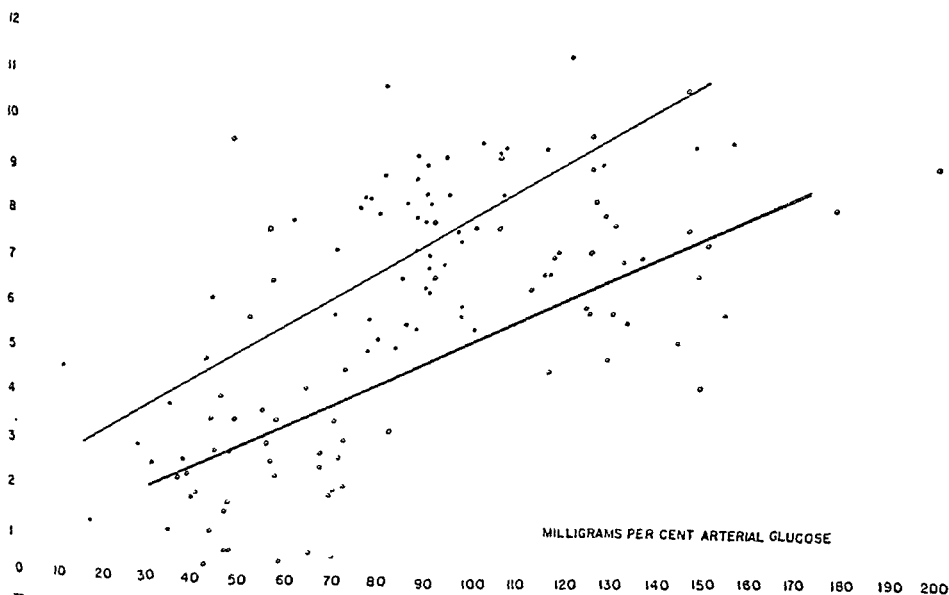


FIG. 4. Correlation of arteriovenous oxygen difference of the brain and arterial blood sugar. The single line represents the mean of observations with the Folin-Wu sugar method, and the double line represents observations with the Hagedorn-Jensen sugar method. This correlation applies to the patients studied in this report, in addition to a hyperglycemic group of chronic alcoholic patients. It does not apply to all clinical states.

cc. found in our schizophrenic subjects is definitely low; it is equaled only in our senile patients, and exceeded only in patients in acute alcoholic intoxication.¹² It is 1.7 per cent below the value found in our normal controls. Moreover, the distribution of the values is unusual, in so far as there is a large proportion of cases with normal values and a smaller but significant proportion with remarkably low values, ranging as low as 40 volumes per hundred cc. This type of distribution closely resembles that found by Gibbs *et al.*¹⁵ in patients suffering with petit mal. It should be emphasized, however, that there were no apparent correlations between the CO_2 values and clinical states, and that patients sometimes showed low and normal values, respectively, on successive days.

The CO_2 content of the blood leaving the brain through the internal jugular vein showed little variation as between the awakened and the comatose state, but the arterial CO_2 rose from the relatively low value of 46 volumes per hundred cc. to the abnormally high value of 54 volumes per hundred cc. during coma. Although the respiratory rate was unchanged during coma, the respirations were shallow and the volume of air exchanged per minute was reduced. The high arterial CO_2 levels prob-

ably resulted from this reduced air exchange in the lungs. The smaller arteriovenous difference of CO_2 is consistent with the lower brain metabolism.

In view of the hypoglycemic patient's tendency to fits and epileptoid twitchings, it is interesting to compare the distribution of CO_2 values in insulin coma with the significant changes observed by Gibbs *et al.* in epileptic subjects. In making this comparison it will be found that the arterial CO_2 of the patient in insulin coma tends to be even higher than that of the epileptic patients subject to grand mal seizures. In two of our subjects where the specimens were taken immediately (ten minutes and one minute, respectively) before the onset of typical and severe hypoglycemic seizures, the arterial CO_2 was unusually high and the oxygen uptake unusually low. The values in these cases were 54.7 volumes per hundred cc. at ten minutes, and 56.8 volumes per hundred cc. at one minute before the seizure. Arterial blood taken at the onset of the clonic phase of a seizure in another patient revealed an abnormally high value of 60 volumes per hundred cc. It would appear that these sharp rises in arterial CO_2 occur only a few minutes before the seizure. Gibbs *et al.* found that the arterial CO_2 of epileptic pa-

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Diagnosis	No. Patients	Oxygen			Carbon Dioxide		Arteriovenous Diff.		Circ. Time Sec.
		Vol. per 100 cc.	Arterial	Venous	Diff.	Vol. per 100 cc.	Arterial	Venous	
Normals	23	19.28 (23) *	12.68 (17)	6.90 (17)	47.65 (23)	53.20 (17)	9.4 (16)	3.3 (12)	14.9 (17)
Schizophrenia	45	19.65 (56)	13.32 (36)	6.70 (36)	46.18 (54)	51.46 (36)	10.7 (32)	0.0 (10)	13.4 (31)
Insulin coma	21	19.13 (77)	16.58 (60)	2.88 (60)	51.13 (71)	53.78 (60)	3.6 (43)	6.1 (18)	11.8 (62)
After 30 insulin shocks	15	19.13 (22)	12.13 (15)	6.69 (15)	48.36 (22)	55.41 (15)	5.7 (11)		12.9 (16)

* The numbers in parentheses represent the number of observations on which the averages are based.

tients suffering from grand mal seizures rose over a period of several days preceding the seizure. Following the seizure there was a marked fall of the arterial CO_2 content, and a subsequent return to normal levels. The authors concluded that the time relations of the CO_2 curves and the seizures indicated a causal linkage between the rise of the CO_2 and the seizures. In the present study we have found a similar rise of CO_2 preceding the insulin hypoglycemic seizure. In these cases, however, the time interval is a matter of minutes rather than of several days.

The increased CO_2 content of both arterial and internal jugular blood should normally induce a compensatory hyperpnea by stimulation of the medullary respiratory center. The absence of any such adequate compensatory regulation and the diminution of O_2 content of the arterial blood indicate that the respiratory center shares in the general depression of brain function during insulin hypoglycemia and coma. A similar depression of the respiratory center occurs in other forms of narcosis (Seevers *et al.*¹⁶), as well as in normal sleep (Page¹⁷). Cheyne-Stokes breathing is not uncommon during insulin hypoglycemia. The relation of this depressed respiratory function to the development of seizures requires further elucidation.

Oxygen Utilization in the Course of Treatment.—Because of the demonstrable diminution of brain metabolism during insulin hypoglycemia, it was tempting to suspect, in the early days of the treatment, that after a series of insulin shocks there was a compensatory stimulation of brain metabolism. It is important to emphasize that the sustained effect of a long course of treatments may be quite different from the immediate effect of a single shock, and that even the end effect may be different in responsive and unresponsive cases. Loman¹⁸ has demonstrated that there is a slow revival from the depression of brain function immediately after insulin coma, but this would not in itself exclude the possibility that the end

result of treatment might be a stimulation of brain metabolism. However, all the data at present available indicate that the oxygen uptake of the schizophrenic brain is normal to start with, and does not need to be stimulated to normal values. Earlier work by Damashek and Myerson² showed normal values for the arteriovenous oxygen difference in a group of schizophrenic patients, and the present report confirms their findings. We have also found that the oxygen arteriovenous difference remained normal—no more and no less—after a course of thirty or more insulin treatments, so that it appears unlikely that the beneficial effects of insulin shock can be attributed to a merely quantitative stimulation of brain metabolism.

There still remains the possibility that there are significant quantitative changes of an order of magnitude too small for detection by this method. It is pertinent in this connection to report that even in patients with general paresis, where there can be no doubt of the existence of an organic brain lesion, we have not found any significant diminution of the total brain metabolism.

But the most important possibility remaining is that the changes in brain metabolism induced by insulin shock treatment are qualitative rather than quantitative. The regular increase in blood carbon dioxide content during insulin hypoglycemia, especially before a seizure, is an example of a significant qualitative change in brain metabolism. According to our data there is also a rise in the CO_2 content of internal jugular blood from the relatively low value of 51.5 volumes per hundred cc. preceding treatment to the relatively high figure of 55.4 volumes per hundred cc. after a course of treatment. We have also found—as Loman did—that the glucose uptake does not rise to normal values with the oxygen uptake, either after the termination of coma (Wortis and Goldfarb¹⁹), or after a full course of treatment. Since the respiratory quotient remains close to unity, it would seem that the low glu-

cose uptake is probably due to the oxidation of intracellular stores of carbohydrates. But further elucidation of these *qualitative* metabolic changes in the course of insulin shock treatment remains a task for the future.

Summary and Conclusions

The metabolism of the schizophrenic brain was studied before and during insulin hypoglycemic coma as well as before and after a series of treatments. The arteriovenous oxygen difference of the schizophrenic brain did not differ from the normal, and no change in the average arteriovenous oxygen difference was observed in a group of schizophrenic patients after a course of thirty or more shock treatments. During insulin coma the arteriovenous oxygen differences were regularly found to be markedly reduced. The arterial CO_2 content was elevated within one hour after the insulin injection, and returned to normal within half an hour after glucose administration. In cases which developed seizures, the arterial CO_2 was found to rise sharply preceding the onset of convulsions. During or following the postconvulsive period of hyperpnea very low CO_2 values were found. These results indicate that there is a depression of the respiratory center during insulin hypoglycemia which results in a decreased sensitivity to the normal stimulus of blood carbon di-

oxide. In those patients who showed abnormally low blood CO_2 values preceding treatment, the tendency of the treatment was to restore normal values.

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PREMARITAL EXAMINATION LAWS

Details of operation of the thirty premarital examination laws now in effect in the United States, summarized in the *J.A.M.A.* for March 7 by George F. Foster, Ph.D., and Howard J. Shaughnessy, Ph.D., Chicago, illustrate, they say, "the difficulties which are in many cases imposed on those who cross state lines in order to marry. These difficulties arise chiefly from the lack of reciprocity in the acceptance of (1) laboratory reports from out-of-state laboratories and (2) examination certificates signed by out-of-state physicians."

Interstate marriages are common in normal times and are now considerably increased as a result of the translocation of many eligible young men in the army camps, they explain. The layman often does not understand that he can best secure authentic information about the procedure in another state from the health department of that state. The data presented by the two men in their article now make it possible for laymen to obtain authentic information from the thousands of physicians who receive the *Journal* as well as from health departments.

P. & S. ALUMNI DINNER

The annual American Medical Association dinner of the Alumni of the College of Physicians and Surgeons, Columbia University, will be held at the Hotel Claridge in Atlantic City, New Jersey, on Wednesday, June 10, 1942, at 7:00 p.m. The local committee in charge will be Dr. Robert B. Durham, '23, chairman, Dr. John S. Irvin, '12, and Dr. Clifford K. Murray, '25.

ALL CLASSIFIED

Visiting nurse: "How many in your family, madam?"

She (snappily): "Five—me, the old man, kid, cow, and cat."

Visiting nurse: "And the condition of your family?"

She: "I'm a Republican, the old man's Democrat, the kid's wet, the cow's dry, and the cat's a Mormon."

—*Medical Record*

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day, which is more than substantial for the average patient. The great majority of cases were maintained comfortably on doses ranging from 5 to 10 drops three times a day. The optimal dose for the individual patient was determined by a balance between the level of maximum response and that of avoidance of annoying reactions from the drug. The obese individuals were found to tolerate slightly larger amounts than the thin ones. In warm weather, it was found necessary to reduce the dose to about half the usual amount, because atropine inhibits perspiration and accelerates the heart, thereby adding to the circulatory strain caused by the heat.

The time interval between doses is of signal importance in this treatment, since it is desirable that most of the drug be eliminated before the succeeding dose is taken.^{15*} Hence particular care must be taken to stress this factor with the patient and definite hours set for the medication. A preferred schedule for those taking atropine three times a day is 8 A.M., 3 P.M., and 10 P.M. All patients should be started with treatment three times a day in order to gage their responses and individual needs. In the course of time, however, some patients may be changed to treatment twice a day, particularly if the dryness and blurring of vision lead to discomfort or interfere with work. After the initial trial period has established tolerance and response to the drug, a few patients have found it possible to carry on comfortably with treatment once a day, taken upon retiring.

The medicine is inexpensive, a month's supply costing only about 50 cents, hence atropine solutions should be discarded after a month, since some deterioration occurs. The patient should also be instructed to discard any mixture that he prepares in which by accident he has poured more than the prescribed number of drops. He should be advised to use one-half to a full glass of water for each dose of atropine, and since dryness almost always accompanies the treatment, little objection is met on this score.

Common and Unusual Reactions†

Every patient should be prepared to expect some degree of dryness of the mouth and blurring of vision. For the dryness, various mint

candies, chewing gum, and large amounts of water have been found helpful, and for the cycloplegic blurring some patients wear glasses; others make temporary use of a magnifying glass for close work, but the greater number of cases achieve natural visual adaptation as the tolerance for atropine improves.

There were but two instances of mild bladder inconvenience as a result of the moderate-dosage atropine treatment, hence a former practice of preparing patients, especially males, to anticipate bladder hesitancy and straining has been discontinued.

Nausea and vomiting were found to occur during the early stages of treatment in about one patient in 10, and because these reactions always imply an idiosyncrasy to the drug, and are viewed with some alarm by the patient and family, it became a routine practice to prepare every patient to expect that, in the event of the appearance of such symptoms, the medicine would be discontinued for a day or two, and resumed with smaller doses and a slower rate of increase until better tolerance was established. With these precautions, no difficulties were encountered on this score.

Mention is made in the literature, particularly by Meulen,¹⁰ of the dangers and violent reactions that accompany sudden withdrawal of massive doses of atropine. No such reactions were noted with moderate-dosage atropine, although in a few instances patients complained of a return of stiffness in the limbs, nervousness, and slight weakness upon the sudden discontinuance of treatment, but these symptoms found ready adjustment.

Other reactions and complaints that reach the doctor from time to time in the course of treatment are dryness of the skin, dysphagia due to throat dryness, loss of appetite, flushing of the face, sensation of body warmth, transient giddiness, constipation, etc. (see Table 1). These symptoms are of temporary nature, never serious, and are managed according to

TABLE 1.—TYPES OF REACTION WITH MODERATE-DOSAGE ATROPINE

Common and Unusual Reactions	No. of Cases	Percentage of Cases
Dryness of mouth	104	93
Blurring of vision	92	82
Nausea and vomiting	12	11
Flushing of face	15	13
Giddiness	7	6
Dryness of skin	5	5
Dysphagia	4	4
Bladder hesitancy	2	2
Depression	2	2
Insomnia	3	3
Constipation	5	5
Sensation of warmth	8	7
Somnolence	1	1

* Roemer¹ also states that Palewka at Tübingen Institute proved that atropine is not accumulated in the body, most of it being eliminated in eight hours.

† To date, since the writing of this paper, there have been no unfavorable reactions under the continued-treatment program.

MODERATE-DOSAGE ATROPINE TREATMENT OF THE PARKINSON SYNDROME

A Review of 112 Treated Cases

LEWIS J. DOSHAY, M.D., New York City, and THEODORE R. FORD, M.D., East Orange, New Jersey

THE atropine treatment of parkinsonism owes its origin to a discovery by Bremer,¹ in 1925, that Parkinson cases have a high tolerance for atropine. Not until several years later was the clinical application of this finding realized, when an elaborate system of therapeutic procedure was evolved at the Hirsau sanatorium, Württemberg, under the direction of Dr. Roemer,² who made a report on the massive-dosage atropine treatment in 1930.* Although the atropine therapy came into existence only ten years ago, a wealth of literature has accumulated on the subject, outstanding in which are the contributions of Kleeman,³ Stemmlinger,⁴ Marinesco and Facon,⁵ Read,⁶ Schachter,⁷ Meesen,⁸ Ehrenberg,⁹ Meulen,¹⁰ Adams and Hays,¹¹ and Hall.¹² The authors, with few exceptions, appraise highly the massive-dosage atropine treatment and its results,¹³ but make frequent reference to dangerous and disturbing reactions that accompany the treatment.

In a previous study by one of the present writers,¹⁴ devoted to ergographic estimations of rigidity, incidental and yet significant notations were made, in a small group of cases treated with massive dosage and moderate dosage, that excess atropine was devoid of special advantages, and that serious reactions accompanied the massive doses, with ensuing death of one patient during the summer. It seemed desirable to evaluate these observations further in a larger group. A moderate-dosage atropine routine was followed with 112 patients for periods ranging from several months to four years. Nineteen of these cases were seen in private practice, and the rest were under study and treatment at the Neurological Institute and the Vanderbilt Clinic. With the exception of 3, the cases were of the post-encephalitic type. The ages ranged from 14 to 56 years, with 75 per cent between the ages

of 25 and 42 years. With the exception of 4 cases, all the patients had had symptoms of parkinsonism for more than three years before moderate-dosage atropine treatment was started, and in 36 per cent of the cases the symptoms had existed for from eight to twenty years. The essential aims of the investigation were to establish whether moderate-dosage atropine treatment can retain the advantages of the massive-dosage program, and whether it can obviate the disturbing reactions of the latter treatment.

Moderate-Dosage Atropine Regimen

Roemer,² in his original program, employed increasing doses of $\frac{1}{4}$ per cent atropine sulfate solution. This was shortly after replaced by the $\frac{1}{2}$ per cent solution, because of the advantage of its requiring fewer drops per dose, and because it simplified the calculation of the amount of the drug per dose. Thus, each drop of the $\frac{1}{2}$ per cent solution is equivalent to $\frac{1}{200}$ grain of atropine, 5 drops to $\frac{1}{40}$ grain, 10 drops to $\frac{1}{20}$ grain, etc. The $\frac{1}{2}$ per cent atropine sulfate solution was regularly employed in this survey.

Every patient was provided with written specific instructions as to the number of drops to start with, the amount and frequency of increase of the dose, and the desired time interval between doses. The poor prospect was started with 1 drop of atropine solution, the average patient with 2 drops, and the robust patient with 3 drops, three times daily. The patients were regularly advised to use only a standardized dropper, measuring one minim to each drop of solution.

The rate of increase varied slightly with the patient, depending upon his tolerance and special idiosyncrasies. Various methods of safe and slow increase in dosage were utilized; a practice frequently employed was to increase by 1 drop three times a day, at intervals of three days, until 6-drop doses were reached, thereafter increasing at greater intervals and with greater caution, until the level of 10 drops three times daily was reached. Ten drops contain $\frac{1}{20}$ grain of atropine, and taken three times a day total about $\frac{1}{7}$ grain for the

From the Department of Neurology, College of Physicians and Surgeons, Columbia University, and the Neurological Institute of New York.

* Roemer is widely credited with initiating the massive-dosage atropine treatment at his sanatorium, despite the fact that a report on the treatment by Kleeman, one of his assistants, antedated Roemer's report by one year.



Fig. 2a.



Fig. 2b.

Fig. 2a. Case 2. Postencephalitic parkinsonism in a patient 25 years of age. Duration of illness eleven years; existence vegetative. Note lethargic facies, gaping mouth, and aged appearance.

Fig. 2b. Case 2. Same patient three weeks later, following moderate-dosage atropine therapy. Note freer, livelier, and more youthful expression. Now working.

Illustrative cases in the series of the much-improved group are submitted for inspection as to the worth of the therapy. Occasionally one obtains seemingly remarkable results, such as will be noted in Cases 2, 5, and 10, although these may be but temporary phases.

Case Reports

Case 1.—In this man, aged 40, and married, signs of parkinsonism set in during 1932, with pronounced rigidity of the trunk and extremities, tremor, difficulty in swallowing, and uncontrollable laughing spells. He had received large doses of hyoscyne and injections of an unknown substance, but became progressively disabled, so that he had to be fed, dressed, and assisted in getting about. His body assumed a doubled-over posture. Because of the extreme burden of caring for him, he was compelled to live away from his family for over a year. Atropine treatment was commenced July 10, 1937, and within three weeks he had regained sufficient freedom and power in his limbs and body to take care of his personal needs, to get about with ease, and travel a great distance to the clinic alone. His improved condition made it possible for him to rejoin his family (see Figs. 1a

and 1b).^{*} He has continued to maintain his improvement to the present time on 5 to 8 drops of atropine, three times a day.

Case 2.—A woman, aged 25, single, at the age of seven, in 1919, suffered an acute attack of encephalitis following influenza. At 14, definite Parkinson symptoms appeared, and these increased in severity despite treatment with hyoscyne and tincture of stramonium. Examination in March, 1937, showed marked rigidity of the neck and extremities, tremors, oculogyric crises, a markedly somnolent appearance, with drooping lids, a gaping mouth, and drooling of saliva by day and night (see Fig. 2a). She was placed on moderate-dosage atropine and after three weeks there was a marked improvement in appearance (see Fig. 2b), the drooling and gaping of the mouth were entirely controlled, speech became freer, and the oculogyria was controlled. She regained interest in her personal needs, and began to work in a store, whereas prior to the treatment she had led a vegetative existence. She was maintained on 8 to 10 drops of atropine twice a day and, when re-

^{*} The graphs are copies of originals in a paper by one of the authors.¹⁴ Permission to use the graphs for this paper was granted by the editor of the *Journal of the Mount Sinai Hospital*.

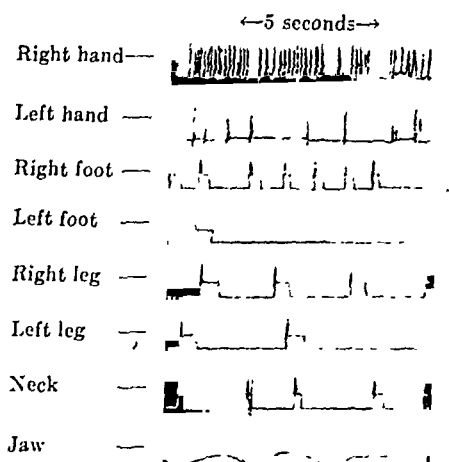


FIG. 1a.

FIG. 1a. Case 1. Before treatment (July 10, 1937).

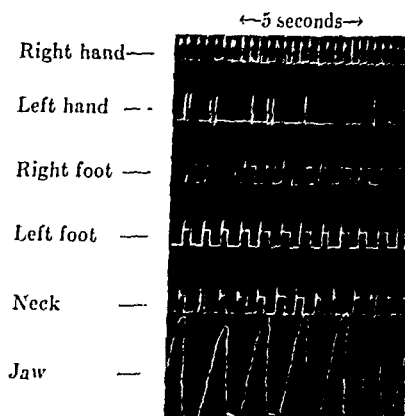


FIG. 1b.

FIG. 1b. Case 1. After three weeks' treatment. Remarkable improvement in performance of neck, jaw, and left-hand movements.

the individual requirements and makeup of the patients. As a precaution against the possible development of glaucoma, all patients past 50 years of age were routinely checked by an ophthalmologist prior to the institution of the atropine therapy.

Under the moderate-dosage atropine regimen outlined above, no disturbing reactions developed among any of the 93 patients carried at the Neurological Institute and the Vanderbilt Clinic, nor among the 19 cases in private practice. Although treatment and observation of the patients under investigation ranged from several months to four years, it can safely be stated that there was not a single instance of any reaction among them to cause concern or anxiety.

Many patients, following the preparatory period of close guidance, acquire an almost uncanny skill in the regulation of the amount of atropine solution best suited to their individual symptoms and tolerance. Nevertheless it is requisite that every patient remain under at least periodic medical supervision throughout the duration of the atropine treatment.

Results of Moderate-Dosage Atropine Treatment

The results of the moderate-dosage atropine therapy appear in summarized form in Table 2, under the headings "much improved," "slightly improved," and "unimproved." Such classification seems better suited to describe the changes in a chronic progressive disease such as postencephalitic parkinsonism,

with its varying phases and symptoms, its stationary periods and relapses, than such classifications as "virtual cure," "symptomatic cure," "remarkably improved," "much improved," "moderately improved," "slightly improved," and "unimproved," as employed by other writers. Past experience with enthusiastic reports on vaccine therapy, massive-dosage atropine therapy, hyperthermia, etc., teaches that it is much safer to underestimate than to overestimate the effects of any therapy in this condition. For the purposes of this study, the "much improved" classification will cover cases of so-called "symptomatic cure," "virtual cure," and the markedly improved; the "slightly improved" classification will include the moderately and slightly improved.

Approximately 26 per cent of the treated patients were much improved by the moderate-dosage atropine technic. "Much improved," as employed in Table 2, signifies a pronounced change for the better in a patient's appearance, action, spirit, and special disabilities, while under treatment.

TABLE 2.—EFFECTS OF MODERATE-DOSAGE ATROPINE TREATMENT

Type of Result*	No. of Cases	Percentage of Cases
Much improved	29	25.9
Slightly improved	43	38.4
Unimproved	40	35.7
Totals	112	100.0

* Among the 19 cases in private practice, 4 were much improved, 6 slightly improved, and 9 unimproved.



FIG. 2a.

FIG. 2a. Case 2. Postencephalitic parkinsonism in a patient 25 years of age. Duration of illness eleven years; existence vegetative. Note lethargic facies, gaping mouth, and aged appearance.



FIG. 2b.

FIG. 2b. Case 2. Same patient three weeks later, following moderate-dosage atropine therapy. Note freer, livelier, and more youthful expression. Now working.

Illustrative cases in the series of the much-improved group are submitted for inspection as to the worth of the therapy. Occasionally one obtains seemingly remarkable results, such as will be noted in Cases 2, 5, and 10, although these may be but temporary phases.

Case Reports

Case 1.—In this man, aged 40, and married, signs of parkinsonism set in during 1932, with pronounced rigidity of the trunk and extremities, tremor, difficulty in swallowing, and uncontrollable laughing spells. He had received large doses of hyosine and injections of an unknown substance, but became progressively disabled, so that he had to be fed, dressed, and assisted in getting about. His body assumed a doubled-over posture. Because of the extreme burden of caring for him, he was compelled to live away from his family for over a year. Atropine treatment was commenced July 10, 1937, and within three weeks he had regained sufficient freedom and power in his limbs and body to take care of his personal needs, to get about with ease, and travel a great distance to the clinic alone. His improved condition made it possible for him to rejoin his family (see Figs. 1a

and 1b).^{*} He has continued to maintain his improvement to the present time on 5 to 8 drops of atropine, three times a day.

Case 2.—A woman, aged 25, single, at the age of seven, in 1919, suffered an acute attack of encephalitis following influenza. At 14, definite Parkinson symptoms appeared, and these increased in severity despite treatment with hyosine and tincture of stramonium. Examination in March, 1937, showed marked rigidity of the neck and extremities, tremors, oculogyric crises, a markedly somnolent appearance, with drooping lids, a gaping mouth, and drooling of saliva by day and night (see Fig. 2a). She was placed on moderate-dosage atropine and after three weeks there was a marked improvement in appearance (see Fig. 2b), the drooling and gaping of the mouth were entirely controlled, speech became freer, and the oculogyria was controlled. She regained interest in her personal needs, and began to work in a store, whereas prior to the treatment she had led a vegetative existence. She was maintained on 8 to 10 drops of atropine twice a day and, when re-

^{*} The graphs are copies of originals in a paper by one of the authors.¹¹ Permission to use the graphs for this paper was granted by the editor of the *Journal of the Mount Sinai Hospital*.

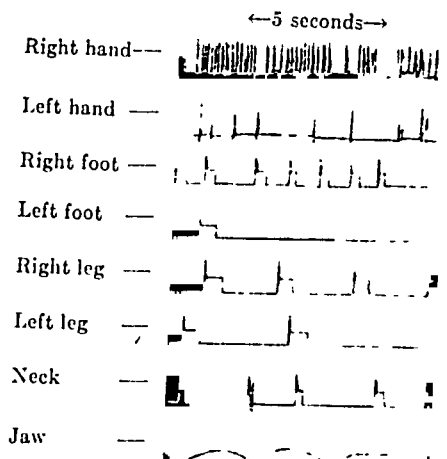


FIG. 1a.

FIG. 1a. Case 1. Before treatment (July 10, 1937).

FIG. 1b. Case 1. After three weeks' treatment. Remarkable improvement in performance of neck, jaw, and left-hand movements.

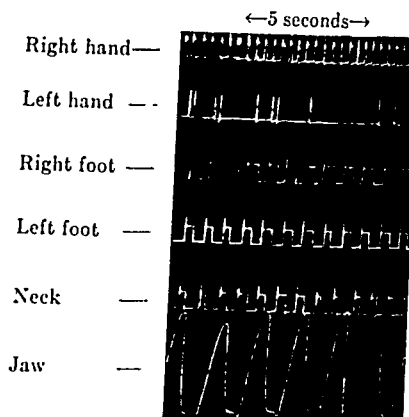


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Case 33.—Gait freer, tremor reduced, sialorrhoea controlled.

Case 35.—Formerly confined to bed, now walking without aid; tone brighter.

Case 40.—Rigidity reduced, working for first time in four years.

Case 49.—Dystonia of jaw lessened, tone brighter, doing simple work.

Case 53.—Oculogyria partly controlled, capable of better care of home and children.

Case 55.—Sialorrhoea controlled, speech improved, depression cleared.

Case 61.—Lethargy lessened, bradykinesia improved, tone more cheerful.

Case 67.—Spasticity lessened, somnolence less, working.

Atropine was found in this investigation to bring as much symptomatic relief to the Parkinson sufferer as any other known treatment. In addition to the physical improvements, the mental stimulation afforded by the drug serves to counteract feelings of depression and discouragement which are common by-effects of any long-standing illness. Many patients under moderate-dosage atropine regimen were found to perform generally better work, whether in the calling of a shopkeeper, laborer, or artist. The women reported finding it easier to care for their homes. Even the patients with very advanced symptoms were not infrequently made more comfortable, found it possible to get about with greater ease, and were better able to attend to their personal needs, thereby lessening the burden on their families. In some patients, pains in muscles and joints were relieved as rigidity was lessened; posture was improved; lethargy was lessened to a considerable degree; speech was improved through the reduction of saliva and buccolingual rigidity; oculogyric crises were remarkably controlled in some cases, and drooling was completely checked. In a number of the cases, mild and moderate tremors responded favorably to atropine in combination with hyoscine, but advanced tremors were not found to yield to any known therapy except in rare instances. The young and recent cases, as a group, responded much more favorably to the atropine regimen than the old and long-standing cases with advanced rigidity and contractures.

The classification "unimproved" in Table 2 covers 40 cases that were too far advanced to profit from the treatment—cases with marked contractures, cases that ceased treatment because of poor tolerance, and cases that were complicated by mental disturbances. Two of the latter required commitment to a

state hospital. Some of the patients were transferred to other types of medication, such as iodide injections, hyoscine, vaccine therapy, hyperthermia treatment, rabellon and bellabulgara, without achieving material advantage. It is of added interest to note that 15 per cent of the cases listed as "slightly improved" and "unimproved" were tried on massive doses of atropine solution, in the hope of achieving further gains. Some in this group were advanced to as high as 30 drops three times a day without deriving added improvement, with the exception of Case 76. This man, although responding with increasing benefit to the higher dosage, developed such violent reactions on 35 drops, taken before retiring, that he feared to return to this medicine, and has since remained on small doses of hyoscine. His improvement consists in a slightly greater control of oculogyria with hyoscine than had been possible before atropine therapy was started. However, the change is so slight that he is classified among the unimproved.

Only in exceptional instances is it necessary or desirable to pass beyond 10-drop doses for any length of time, and at no time does it seem justifiable to pass beyond the 15-drop level. It may be considered axiomatic that if a patient fails to respond to moderate doses of atropine, he will also fail on huge doses, and will uselessly be exposed to serious reactions. The solution of such a problem lies elsewhere than in dangerous increases of atropine.

Comments on Effects—Comparisons with Other Medication

The results with moderate-dosage atropine appear highly satisfactory as long as the patients remain under treatment. The much-improved cases totaled 26 per cent, and the slightly improved, 38 per cent. These results compare favorably with appraisals of the results of massive-dosage atropine treatment, such as recorded by Hall (40 per cent greatly or definitely improved),¹⁶ or the results of Stemplinger (42 per cent definitely benefited and 58 per cent not benefited).⁴ Furthermore, it is possible that the 26 per cent much-improved result obtained with moderate doses of atropine may actually represent no smaller ratio of much-improved cases than that in the compared citations, since various writers classify cases as greatly or definitely improved in a different sense, there being no standards to apply to such changes. Never-

examined on May 6, 1942, remarkable improvement was noted.

Case 5.—A man, aged 34, single, reported that in 1929 his movements had become slowed, his neck and extremities stiff, and his eyes had begun to roll upward periodically. The eye condition had become very distressing in the past three years, lasting as long as eight hours with each paroxysm. Hyoscine, tincture of stramonium, and other forms of medication brought no relief, and he was in serious danger of losing his employment with the police department. Moderate-dosage atropine treatment was commenced in March, 1937, and within two weeks he obtained moderate relief from his eye symptoms. Within another two weeks he reached 10-drop doses, and there was complete cessation of the oculogyric crises, and a freedom of body he had not enjoyed for years, as shown in his spontaneous remark, "Now I can turn my head, and I begin to notice all the pretty girls around me." He has remained on 10-drop doses three times a day for the past four years, has worked steadily with the police department, and has not had a recurrence of the troublesome oculogyric spasms.

Case 8.—In this man, aged 35, and married, Parkinson signs appeared in 1932, with rigidity of the extremities and a mild tremor of the left arm. His condition grew worse under iodide injections and hyoscine, and in 1935 daily oculogyric spasms forced him to stop work. In April, 1937, he was started on moderate doses of atropine, and within four weeks the oculogyria was under complete control, the rigidity at a minimum, and his facial fixity had disappeared. Within three months the tremor subsided, except for slight traces when under excitement. He has continued comfortably on 8-drop doses of atropine and cares for his home and children. He has made no effort to return to work because he claims that his wife holds a much more lucrative job than it would be possible for him to obtain.

Case 10.—A man, aged 34, single, began to suffer in 1934 with increasing rigidity of the extremities, tremor in both arms, drooling of saliva, gaping of the mouth, and almost daily oculogyric crises. Hyoscine reduced the gyric paroxysms to twice weekly, but brought little change in his other symptoms. He was placed on moderate-dosage atropine April 7, 1937, and the clinical and graphic rechecks on July 31, 1937, revealed remarkable changes. The rigidity and tremors had subsided, the drooling was controlled, and the oculogyric spells have remained in check from the first month of treatment to the present day. The patient is cheerful in spirit and bright in expression.

Case 20.—A woman, aged 28, single, had influenza at the age of 12, followed by lethargy, diplopia, and narcolepsy. In 1933, oculogyric spells appeared three and four times a week, with marked trembling of the lids, increasing rigidity on the right side, and photophobia. On Decem-

ber 10, 1937, she was considered an unsuitable case for vaccine therapy because her condition had been of too long duration. She was placed on hyoscine, and on January 14, 1938, while on this drug, she became nauseous and vomited projectively, became very weak and dizzy, and the oculogyria increased in severity. The hyoscine was stopped. On January 28, 1938, she was started on moderate doses of atropine and the eye paroxysms were successfully controlled, so that on May 18, 1938, she reported not having had a single attack in two months. She became brighter, more cheerful, and was helping her mother with housework. In November, 1938, she reported a mild oculogyric paroxysm at the time of menses. On September 22, 1939, she reported not being troubled with the eye spells unless she missed her medication, and that these were mild in character. She is continuing to help her mother at home and is planning to marry shortly.

Case 26.—A violinist, aged 35, single, who had formerly been in charge of the violin department of an institute of music in the Middle West and director of a music school in New York, found himself increasingly incapacitated in his work from 1933 on. Hyoscine and other forms of medication failed to provide sufficient relief from advancing rigidity, slowness of movement and thinking, and tremor of the right hand. The condition became more distressing in the early part of 1938, with the onset of blinking of the eyes and a fear of facing audiences. His violin playing depreciated markedly, and this was the more aggravating to him because he was planning to be married. He became very despondent. He obtained employment with the WPA and on October 3, 1938, he was placed on atropine. A month later, on 8-drop doses, satisfactory progress was noted, in that rigidity was lessened and bradykinesia corrected. He looked brighter and more cheerful. On December 27, 1938, he was much improved in body and spirit. On February 7, 1939, he reported that he could play his violin much more freely and faster than before. On November 20, 1939, he reported that he had made a successful concert appearance, that he had left the WPA and was working as leader of a band, and that he had married and was living happily with his wife. Of particular interest is his statement that he had found it possible to reduce the 10-drop doses of atropine to a minimum through special programs of physical exercise, and for the past three months he has been on no medication whatever.

The cases classified in Table 2 as "slightly improved" were not without definite favorable progress, as may be noted in the following instances:

Case 31.—Gaping mouth corrected, drooling stopped, speech clearer.

Case 32.—Walking easier, spasticity lessened, tone more cheerful.

treated cases as evidence of the efficacy of a particular remedy, is to be deplored. It would be more helpful if these were qualified as to nature and duration of the employment. While a few Parkinson patients under treatment find it possible to retain, or return to, their original employment, most of those reported as working occupy themselves with simple chores, such as gardening or peddling, arranged by the benevolence of relatives and friends. It is probable that the claims of massive-dosage proponents^{2,11} ten years ago, that 60 to 70 per cent of their treated cases were returned to effective work (but have never since been heard from), possessed no greater substance than the more recent reports of 60 per cent of cases rendered self-supporting through Bulgarian belladonna root treatment.¹⁷

While the results with moderate-dosage atropine may appear promising at first glance, it must still be understood that these effects are temporary. One cannot foretell the course of these patients in the future. It is known that if the treatment were interrupted or stopped, few lasting benefits would remain. It must be realized that we are dealing with a chronic inflammatory disease, hence there should not be too much enthusiasm in reporting results, no matter what type of therapy is employed. Hall¹² comments thus: "From time to time zealous enthusiasts, carried away by the real but temporary improvements so characteristic of this chronic disease, deceive themselves and raise false hopes in others."

Acknowledging these limitations, it may nevertheless be stated that, in view of present treatment opportunities available to these chronic sufferers, moderate-dosage atropine is among the best remedies, particularly since it is free from disturbing reactions. The fact of its effectiveness in the Parkinson condition is supported not only by routine clinical observations, but also by ergographic checks upon 23 of our cases before and after a period of medication, as well as by special clinical tests (to appear in a later paper), which were found to correlate closely with the ergographic procedures.

The action of atropine, an autonomic drug, on the somatic musculature of the eyes, face, neck, trunk, and extremities, is not entirely clear. Kuntz,²⁵ in his book, *The Autonomic Nervous System*, claims that he and other workers have demonstrated the existence of direct autonomic innervation of the skeletal muscles. The experimental work of Lang-

worthy²⁶ and others, however, contradicts this contention, and attributes the autonomic effects upon somatic musculature entirely to circulatory changes. Regardless of the manner of its action, there can be little surprise that atropine is of symptomatic help in the Parkinson syndrome, since this condition is largely a pathologically exaggerated vagotonic state, as reflected in the excessive salivation, bradykinesia, bradycardia, shallow respiration, lethargy, pallor of the skin, expressionless face, etc.

The moderate-dosage atropine treatment should be tried in every case of postencephalitic parkinsonism, unless contraindications such as cerebral arteriosclerosis, hypertension, menopausal state, or threatened glaucoma exist. The treatment is inexpensive, safe, easy to obtain, and simple to administer.

Hyoscine may be added in cases with marked tremor and excitement. Hyoscine, which is the same as U. S. P. scopolamine,²⁴ was added as a supplement to atropine in 60 per cent of the cases in this investigation, and was found to be helpful and well tolerated in 35 per cent. In 40 per cent of the 112 cases, efforts were made slowly to discontinue the atropine, while at the same time increasing the hyoscine. The patients reacted poorly to the experiment, complained of returning symptoms of stiffness, sluggishness, weakness, and dizziness, and either asked for or had to be returned to the atropine regimen, with the exception of three cases. Psychologic factors were carefully considered and discounted. Further evidence that hyoscine alone is not as effective as atropine is offered in the fact that 93 per cent of all the patients under study had been on hyoscine before they turned to atropine. Hyoscine is apparently incapable of reducing the rigidity of skeletal muscles and is depressing to the higher centers, whereas atropine is stimulating in effect. Hall,¹² who probably has had as much experience with hyoscine in parkinsonism as any of the writers on the subject, makes similar comment. While hyoscine is, therefore, a good supplementary drug, it cannot successfully replace atropine, except in rare instances, in the treatment of postencephalitic Parkinson cases. In cases of true paralysis agitans, however, hyoscine should be the drug of choice.

Benzedrine sulfate was found to be of supplementary value in 5 per cent of the cases,²⁷ but was not well tolerated by others,¹³ and in not a single case was it found effective enough to replace the atropine. Physiotherapy,

theless, since moderate-dosage atropine affords marked improvement in symptoms in one case out of 4, and slight to moderate improvement in another third of the cases, it is a treatment of definite value, particularly in view of the absence of any serious reactions, and the limited therapeutic facilities available to these chronic sufferers.

A number of cases under atropine treatment, such as Cases 2, 5, 10, and 26, might be considered as symptomatic cures, but this term is a misnomer in postencephalitic parkinsonism and its use should be discouraged. Reports appear in the literature^{17*} of "virtual cures" and "symptomatic cures" with Bulgarian belladonna root treatment, whereas it is known that such improvements almost invariably disappear upon the cessation of treatment.¹⁸ For example, one would not consider a psychoneurotic patient as symptomatically cured merely because his most disturbing symptom—insomnia—was controlled by the continued use of hypnotics.

Comparison of the results of the moderate-dosage atropine treatment with conservative reports of belladonna root therapy similarly appear favorable. Thus, Hill,¹⁸ in a carefully controlled study, showed that 71 per cent of cases treated with Bulgarian belladonna root were moderately and only temporarily improved, and 29 per cent unimproved. These compare with our data of 64 per cent so improved, and 36 per cent unimproved. He furthermore makes mention of severe reactions that were encountered among his cases treated with Bulgarian belladonna root, including delirium, confusion, restlessness, and odd behavior during sleep, necessitating close attendance upon the patients during treatment. He found the Bulgarian belladonna root in no way superior to the English belladonna root. Neuwall's data¹⁹ appear slightly more favorable to Bulgarian root therapy, with 52 per cent corresponding to our much improved cases, and 25 per cent slightly to moderately improved; 5 patients died in the course of the study, and the remaining 19 per cent were unimproved. Neuwall similarly found the English belladonna root as effective as the Bulgarian. Ferrannini²⁰ reported no advantage in the Bulgarian product above and beyond those of the Italian belladonna root.

Vollmer,²¹ in a study with American belladonna root, found 53 per cent of 26 treated

cases improved subjectively and objectively. He stated that the American belladonna root was just as effective as the Bulgarian. Gayle²² treated his patients with American belladonna root, but for odd reasons called his therapy the "Bulgarian" treatment. He reported that all the symptoms in every patient, upon withdrawal of the "Bulgarian" treatment, returned to as great a degree as formerly present. Neal and Dillenberg²³ found Bulgarian belladonna root therapy resulted in 31 per cent of the cases becoming much improved, 56 per cent slightly or moderately improved, and 13 per cent remaining unimproved, while with the American belladonna root only 15 per cent were much improved, 38 per cent slightly and moderately improved, and 47 per cent unimproved, clearly implying that the American belladonna root is much inferior to the Bulgarian.

Judged on the basis of these statistical results, it would seem that moderate-dosage atropine falls somewhere between the Bulgarian and the American belladonna root therapy in effectiveness for the Parkinson syndrome. In our experience, however, the moderate-dosage atropine treatment proved far superior, since in the course of our program more than 30 patients were treated with one or the other of the belladonna root preparations, and it was found that the toxic effects of these products more than offset any gains derived, so that without exception the patients asked to be returned to atropine, or atropine supplemented by hyoscyne. Moreover, since the ingredients of the Bulgarian and American belladonna roots consist of nothing more than hyoscyamine and traces of atropine and hyoscyne, and since, according to Sollman,²⁴ the isomer, levorotatory hyoscyamine, is not different in its action on the central nervous system from racemic atropine, and only twice as strong as atropine in its peripheral effect, it would seem that no great advantages should be expected from the belladonna root preparations, above and beyond those of atropine, supplemented by hyoscyne in indicated cases. Furthermore, since a dosage of 10 drops of atropine three times a day contains 10 mg. of atropine, this should approximate the effects of 10 tablets of the belladonna root, containing less than 5 mg. of hyoscyamine, which is definitely more than the amount of the latter contained in the average daily dose of belladonna root.

The practice of some writers, of offering summary employment statistics for their

* Panegrossi reports almost 100 per cent "virtual cures" in early Parkinson cases by means of Bulgarian belladonna root.

treated cases as evidence of the efficacy of a particular remedy, is to be deplored. It would be more helpful if these were qualified as to nature and duration of the employment. While a few Parkinson patients under treatment find it possible to retain, or return to, their original employment, most of those reported as working occupy themselves with simple chores, such as gardening or peddling, arranged by the benevolence of relatives and friends. It is probable that the claims of massive-dosage proponents^{2,11} ten years ago, that 60 to 70 per cent of their treated cases were returned to effective work (but have never since been heard from), possessed no greater substance than the more recent reports of 60 per cent of cases rendered self-supporting through Bulgarian belladonna root treatment.¹⁷

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particularly passive and active exercise and massage, was found very helpful for the rigidity, as were high-calorie diets and calcium for the tremors. Ephedrine, nembital, gyn-ergen, phenobarbital, dilantin, bromides, thyroid, pituitary, and vitamin B₁ were tried, but not one of them added materially to the atropine factor.

Summary

The investigation sought to establish to what extent moderate-dosage atropine could obviate the violent reactions of the massive-dosage treatment, and yet retain the therapeutic advantages of the latter. Details of the method of administration, the common and unusual reactions, and the effects of the moderate-dosage atropine treatment are reviewed in a group of 112 Parkinson cases. Comparisons are also afforded between the results of this treatment and those of massive-dosage atropine treatment, as well as those obtained with the various preparations of belladonna root, hyoscine, etc.

The findings reveal that moderate-dosage atropine treatment is free from disturbing reactions, and its results compare favorably with those of massive-dosage atropine treatment and other forms of therapy.

Clinical observations indicated that 26 per cent of the 112 cases of Parkinson's syndrome were much improved, and 38 per cent slightly to moderately improved. The clinical impressions as to the effectiveness of the treatment were supported in 23 cases by ergographic records taken before and after atropine treatment, as well as by special clinical tests which were found to correlate in precision with the ergographic procedures. Atropine was found particularly helpful in the young and recent cases.

Moderate-dosage atropine is a desirable remedy in the armamentarium for the treatment of postencephalitic parkinsonism. It is inexpensive, effective, easy to obtain, safe to use, and simple to administer when the routine is comprehended. It is also of value as a replacement therapy in chronic encephalitis, when patients tire of years of sodium iodide injections, hyoscine, vaccine therapy, hyperthermia, etc. It is of greater help in 35 per cent of the cases when combined with hyoscine, and in 5 per cent of the cases when combined with benzedrine sulfate. Interrupting the treatment produces mild withdrawal reactions, and stopping the treatment leaves few lasting benefits.

Conclusions

1. The original Roemer treatment of parkinsonism with massive doses of atropine has been found unnecessary, dangerous, and of no special advantage.

2. Moderate-dosage atropine therapy is free from disturbing reactions, and its results compare favorably with those of massive-dosage atropine therapy, as well as those obtained with the various belladonna root preparations.

3. The moderate-dosage atropine regimen is a most economical, simple, and safe treatment to undertake, if reasonable precautions are taken.

4. Moderate-dosage atropine treatment should be the one of choice for Parkinson cases, supplemented by hyoscine in selected situations. Only in cases refractory to atropine should the more expensive, and apparently more toxic, proprietary belladonna root preparations be employed, since they possess no ingredients of structure or function above and beyond those of atropine and hyoscine. The use of massive-dosage atropine therapy is hardly justified at any time, in view of the violent reactions produced.

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A COMPARISON OF SYNTHETIC AND NATURAL BELLADONNA ALKALOID COMPOUNDS IN THE TREATMENT OF PARKINSONISM

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NEAL and Dillenberg¹ reported that their "results with bellabulgara were far superior to those with rabellon" in the treatment of chronic encephalitis: "furthermore, the toxic effects with rabellon were more frequent, more severe, and occurred with a smaller dosage."

Bellabulgara is a tablet containing 0.4 mg. of the total alkaloids extracted by white wine from selected roots of Bulgarian belladonna. Rabellon is a synthetic preparation containing 0.5 mg. of alkaloids per tablet in the following combination: hyoscyamine hydrobromide, 0.4507 mg.; atropine sulfate, 0.0372 mg.; and scopolamine hydrobromide, 0.0119 mg. In a previous publication² the theory, pharmacologic development, and clinical results obtained with this synthetic preparation were outlined. The latter are incompatible with the statements of Neal and Dillenberg.

Though previously² rabellon had been compared with and found at least equivalent to natural Bulgarian belladonna root extracts, a new comparative study of bellabulgara and rabellon was carried out by the author. A group of 15 patients who had been treated over a period of from three to twenty months with rabellon were shifted to the natural belladonna preparation as soon as they appeared dissatisfied with the therapeutic results of the former, or disappointed because no further improvement could be achieved. The patients were informed that they were to take bellabulgara, and in three cases vinobel, which is a similar natural belladonna preparation; these were prescribed as "new remedies which are supposed to be more effective than rabellon and therefore worth a trial." Since the considerably higher price of bellabulgara might have been a psychologic factor, I wish to mention that most of these patients who had to buy rabellon were furnished with free samples of the natural drugs. After a trial of from one to four weeks, the patients were first questioned as to their impressions and preferences for either one of the preparations, and subsequently examined. It was left entirely up to the individual patient which preparation he wanted to continue.

Table 1 contains the results of this comparative study. It is evident that bellabulgara did not prove superior to rabellon.

Fourteen of the 15 patients preferred rabellon, all 15 patients at their own request continued treatment with rabellon. There was no indication whatsoever that rabellon caused more side-effects. None of the patients was objectively improved by subsequent therapy with bellabulgara; most of them claimed to feel worse while taking the natural preparation.

Case 7 was particularly interesting. This was a woman, 50 years old, with chronic encephalitis of eight years' duration, who had been treated with bellabulgara since July, 1940. At first it seemed to help, but later it proved ineffective. This patient was first seen October 18, 1940, and was at this time taking 10 tablets of bellabulgara per day. She showed marked bilateral tremor, moderate rigidity, retropulsion and propulsion, and could not walk one block. She had slight dryness of the throat and slightly blurred vision. She had been unable to write for the past two years. A sample of her handwriting on October 18, 1940, is shown in Fig. 1. The patient was shifted to 9 tablets of rabellon. Eight days later her condition had definitely improved, the side-effects had decreased, she felt better, walked two blocks, and wrote considerably better (Fig. 2). On November 9, 1940, the dosage was increased to 10½ tablets of rabellon per day. She felt much better, had no side-effects, the rigidity had disappeared, the tremor was markedly relieved, she easily managed to walk six blocks without any propulsion, and her handwriting was practically normal (Fig. 3).

Discussion

The discrepancy between the results of Neal and Dillenberg and those reported here calls for an explanation. It is not merely a practical question of the superiority of one preparation over another, but a more fundamental pharmacologic question. To resort to the assumption that natural compounds are frequently more effective than synthetic preparations is not satisfactory. It is true that, for example, codliver oil, in some instances, as in relation to leg weakness of chickens is more effective than irradiated ergosterol. This is certainly not merely because codliver oil is a

Helena

[scribble]

8x2 cap. Bellabulgar 10-18-1940

FIG. 1. Handwriting of chronic encephalitis patient after three months' treatment with 10 tablets of bellabulgar per day.

Helena M. Krueger

4x2 1/2 Rabellon 10-26-1940

FIG. 2. Handwriting of same patient, eight days later, taking at this time 9 tablets of rabellon per day.

Dr. H. Vollmer.
25 Central Park West
New York City

Nov. 9, 1940

Dear Dr. Vollmer.

I am well & pleased with the results from your treatment so far, and at your suggestion, you have my authority to use my signature for "scientific" purposes only, showing the improvement in my writing.

Very truly yours,

Helena M. Krueger.

FIG. 3. Handwriting of same patient, showing remarkable improvement twenty-two days after change of medication (at this time taking 10 1/2 tablets of rabellon per day).

natural compound, but because codliver oil contains mainly vitamin D₃, which is different from and more effective in chicken rickets than vitamin D₂. Thus advancing knowledge usually replaces mere speculation.

Therefore, if the observations of Neal and Dillenberg were to be confirmed by others, we should not necessarily have to explain such results on the basis of superiority of natural compounds. Pharmacodynamic synergism is

a pharmacologic fact. However, the natural and the synthetic preparations have a certain similarity and therefore would be expected to exert analogous synergisms. If, nevertheless, bellabulgar were superior to rabellon, we should resume the pharmacologic studies of belladonna roots and look for new and as yet unknown components. The traces of belladonnine and atropamine which may occasionally be present in belladonna roots certainly do not offer a convincing explanation for a superior effect. In fact, I could not confirm the results of Neal and Dillenberg. Furthermore, other investigators of this subject corroborated my findings in personal communications. Recently, Price and Merritt³ arrived at similar conclusions.

There are two clues to explain the observations of Neal and Dillenberg. First, Dillenberg, in his discussion remarks, which did not appear in the publication, indicated that the highest dose of rabellon given in the one group was 9 tablets per day, as compared with the maximum dose of 18 tablets of bellabulgar administered in the other group of patients. He further stated that higher doses of rabellon did not further improve and were not tolerated. This is in contrast to my observations. A considerable percentage of my patients tolerated and needed more than 9 tablets of rabellon to obtain optimum results. A daily dose of about 20 tablets was no exception and never caused toxic manifestations. Patients in an advanced stage of chronic encephalitis, as among those treated by Neal and Dillenberg, in general need larger doses than do mild cases of short duration. Consequently, doses of not more than 9 tablets of rabellon appear insufficient for many cases and less adequate than doses of up to 18 tablets of bellabulgar as administered in the comparative group of patients. The only conclusion permissible from the comparative study of Neal and Dillenberg, therefore, would be that bellabulgar in adequate dosage is more effective than rabellon in inadequate dosage.

A second factor has to be taken into consideration. An analysis of Table 1, and the observation in Case 7, would justify the conclusion that rabellon is superior to bellabulgar. I do not wish to commit myself to such a statement. Every student of chronic encephalitis knows to what extent some symptoms of parkinsonism, particularly the disturbance of initiating movements, can be influenced by psychotherapy. Drug therapy may veil or be a vehicle of such psychothera-

TABLE 1.—COMPARATIVE RESULTS WITH RABELLON AND BELLABULGARA

Case	Age, Yrs.	Duration of Disease, Yrs.	Etiology	Severity of Disease	Rabellon Dosage, Tablets	Degree of Improvement	Subsequent Bellabulgar Dosage, Tablets	Condition Following Change of Drug Subjective	Condition Following Change of Drug Objective	Preparation Preferred by Patient
1	42	5 1/2	encephalitis	severe	8	moderate	8	worse	same, more side-effects	rabellon
2	23	5	encephalitis	mild	5	marked	6	better*	no change	rabellon
3	28	12	encephalitis	moderate	9	moderate	8 (vinobel)	worse	more tremor, muscle pain, side-effects	rabellon
4	46	3	encephalitis	mild	9	marked	11 1/4	worse	same, more side-effects	rabellon
5	52	1	encephalitis	moderate	4	marked	4 (vinobel)	same	same, less dryness	rabellon
6	43	4	encephalitis	severe	15	moderate	15 (vinobel)	worse	worse	rabellon
7	50	8	encephalitis	severe	10 (bellabulgar)	unimproved	9 (rabellon)	much better	improved, same side-effects	rabellon
8	32	7	encephalitis	moderate	6	marked	6	same, more side-effects	no change	rabellon
9	42	15	encephalitis	moderate	10	slight	12	"without result"	no change	rabellon
10	59	7	encephalitis	severe	11	moderate	12	same	no change, same side-effects	rabellon
11	32	2	encephalitis	mild	4 1/2	marked	5	not better, more dryness	no change, more side-effects	rabellon
12	20	4	encephalitis	moderate	12	marked	9	same	no change	rabellon
13	44	7	encephalitis	severe	12	moderate	12	same, more dryness	no change	rabellon
14	66	3	arteriosclerosis	moderate	4	slight	5	better	no change	bellabulgar
15	43	3	encephalitis	moderate	6	moderate	7	not as good	slightly worse, more dryness	rabellon

* After repeated change, rabellon was found to be better.

peutic influences. It is obvious that the efficacy of a drug on chronic encephalitis depends not only on its real pharmacologic effect but also, to a certain extent, on the attitude of the physician and the way he presents the drug to the patient. As between such similar preparations, the one that the individual physician believes in, and is more interested in, is apt to achieve the better clinical results. I certainly tried to eliminate this psychic factor in the present comparative study.

Finally, I believe that it will lead to more conclusive results if the symptomatic effects of two preparations are compared by interchanging these drugs in equivalent or optimum dosage in the same patients, instead of in the manner adopted by Neal and Dillenberg. These investigators placed their patients in two groups of similar age and severity of condition; they treated the one group with bellabulgar, the other with rabellon,

and compared the results in the groups respectively. This method of comparison seems to involve more possibilities of error.

Conclusion

In 15 patients with Parkinson's syndrome, a comparison of natural (bellabulgar) and synthetic (rabellon) belladonna alkaloid compounds did not reveal any appreciable difference in therapeutic value. In some cases, rabellon seemed to be superior.

Contradictory reports of Neal and Dillenberg are ascribed to a difference in dosage of the two preparations, and possibly to a psychologic factor.

25 Central Park West

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In every mental institution, tuberculosis is a problem of the first order. Of the deaths from tuberculosis in the United States, 5.2 per cent occur in mental hospitals, while only 15.9 per cent are in tuberculosis hospitals.—M. Pollak, M.D., et al, in *Amer. Rev. Tub.*

A medical paper advances the theory that "man is slightly taller in the morning than he is in the evening." We have never tested this, but we have certainly noticed marked tendency to become "short" toward the end of the month. —The Mississippi Doctor

CLINICAL CONSIDERATIONS OF POISONINGS BY SOME OF THE CHLORINATED HYDROCARBONS

HENRY FIELD SMYTH, M.D., Dr.P.H., Philadelphia

IN THIS paper we shall limit our discussion to the more volatile members of the chlorinated hydrocarbon group and to those most usually met with in industrial exposures, where poisoning is principally due to inhalation of vapors or sprays. For the sake of reasonable brevity, we shall not consider the chlorinated naphthalenes or halowax group, which act primarily as skin irritants, but which are also capable of producing systemic poisonings. The effects of these materials have been fully reported by members of the New York State Department of Labor and the Harvard group.

Of the group to be considered here, the most important, from the standpoint of extent of use, is carbon tetrachloride or tetrachloromethane. Among the saturated compounds we must also consider methyl chloride (CH_3Cl), ethyl chloride ($\text{C}_2\text{H}_5\text{Cl}$), chloroform (CHCl_3) or trichloromethane (which is of more interest in medicine than in industry), tetrachloroethane ($\text{CHCl}_2\text{CHCl}_2$), and pentachlorethane ($\text{CCl}_3\text{CHCl}_2$), the last two being decidedly the most toxic of the entire group. We also at times meet with methylene dichloride or dichloromethane (CH_2Cl_2), and ethylene dichloride or dichlorethane ($\text{CH}_2\text{Cl}\text{CH}_2\text{Cl}$). Among the unsaturated compounds trichlorethylene (CHCl.CCl_2) and tetrachlorethylene (C_2Cl_4), or perchlorethylene as it is frequently called, are the most often used, although we also occasionally meet with dichlorethylene (CHCl.CHCl).

In the discussion of these materials we shall stress only the clinical features of poisonings, including prophylaxis, diagnosis, prognosis, and treatment, as the phases that are of particular interest to physicians in industry and to general practitioners. At the outset we wish to emphasize the importance of knowing in some detail the industrial exposures (not just *where* the man works, but especially *how*) possibly affecting workers who come to physicians for advice.

General Considerations

As a class, the gaseous hydrocarbons them-

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selves usually act more or less specifically on nervous tissues, but the chlorinated hydrocarbons, especially the saturated compounds, act less specifically on nervous tissue and more definitely on the heart, respiratory tract, and glandular organs, especially the liver and kidneys, and at times the pancreas and adrenals. Continuing exposures produce cardiac muscle depression and degeneration of internal organs. The unsaturated compounds produce less of these organ degenerations and more of the specific nerve tissue changes characteristic of the effects of the unhalogenated compounds.

In high concentrations, almost all of the entire group are anesthetic in action and, if exposure continues, may produce pulmonary edema, coma, and cardiac death. Because of this action, the first consideration in poisonings from any chlorinated hydrocarbon is immediate and continued removal from further exposure, with fresh air and absolute rest.

It is also very important that where men are asked to work with these materials, pre-employment examinations should be insisted upon, and all workers with heart, circulatory, or respiratory defects, or damage to liver or kidneys, be excluded from such exposures. Since alcohol consumption increases the hazard, alcohol addicts, especially those indulging in acute excesses, should be excluded from exposure. For workers with the unsaturated compounds of the group, nervous stability, both central and peripheral, is also important.

Usually the chlorinated hydrocarbons have distinctive odors easily detectable by the average person. It is always best to determine the hazard by chemical measurements of vapor concentrations in working areas; but where such tests are not available, the average person, entering from a fresh atmosphere, can detect potential danger by the odor before other effects, such as dizziness, etc., need be felt.

Unsaturated Compounds

As already stated, the unsaturated compounds are less apt to act on glandular organs and heart muscle and so are less apt to produce easily recognizable chronic effects, although the idea that this necessarily makes them innocuous in any but very heavy acute expo-

tures is erroneous. My own personal experience with the chlorinated hydrocarbons is limited to trichlorethylene and perchlorethylene in the unsaturated group, and carbon tetrachloride in the saturated group.

Dichlorethylene.—Hamilton¹ reports a fatality in the case of a rubber worker entering a vat containing rubber dissolved in dichlorethylene. No details are given, and no other cases seem to have been reported in the literature.

Trichlorethylene.—This substance is very widely used as a degreasing agent in connection with metals, for the extraction of fats and oils, as a nonflammable dry cleaning agent, and in various ways. It may be used alone or in combination with other more or less toxic materials, especially in mixtures with trade names giving no true indication of their chemical compositions. As with all mixed chemical hazards, typical pictures may be much confused and not infrequently the combined action of two or more toxic materials may be greater than the additive total of the individual effects.

Most of the industrial poisonings from trichlorethylene have been acute and in many cases fatal, and some workers have implied that there is little or no danger from chronic poisoning when a reasonably pure material is used, as is the case in this country. We feel definitely that this is a mistaken idea, as various cases of chronic ill effects have been reported; and although trichlorethylene is undoubtedly less toxic, volume for volume, than are carbon tetrachloride and other saturated chlorinated hydrocarbons, the very fact that it does not usually produce much effect on the glandular organs, such as liver and kidneys, but acts principally on central and peripheral nervous tissue, makes its early effects less easily recognizable, the nervous manifestations being more easily overlooked in early stages or attributed to psychic or other causes. We therefore feel that it is especially important to protect workers from this potential harm, which is less apt to be recognized than is liver or kidney degeneration.

Because of its depressant action on cranial nerves, trichlorethylene has been used as a curative for trigeminal neuralgia as well as for angina pectoris. Its action is, however, in no sense curative, but merely palliative. For these conditions it has been given by inhalation, from 20 drops to 1 cc. at a time; but so used it is an edged tool. Isenschmid and Kunz² report such use of it for angina pectoris as causing a severe neuritis, papillary dis-

turbances, polyneuritis of all extremities with loss of reflexes, reduced skin sensitivity of a persistent nature, and permanently impaired vision. Eichert³ reports 3 cases of therapeutic poisoning with central nervous system disturbances, such as disorientation, confusion, amnesia, ataxia, and trigeminal area analgesia. Kunz and Isenschmid⁴ also report 7 cases of eye injury. Both acute and chronic injury may lead to prolonged after-effects of a general nature, with psychic and gastric disturbances, anemia, and poor vision due to retrolbulbar neuritis. Gerbis⁵ in 1930 reported 2 cases of angina pectoris occurring from inhalation during degreasing operations. The New York State Department of Labor and Industry *Bulletin* for November, 1937,⁶ reports three users complaining of fatigue, with gastrointestinal and central nervous symptoms, including fine tremors of eyelids and hands.

Although many more cases of acute poisonings (at times severe or fatal, but often with only temporary subjective symptoms) have been reported than of chronic poisonings, we feel that the report of Taylor⁷ in 1936, based on exposures of a limited number of rabbits and two dogs for up to six months to from 500 to 3,000 parts per million, and showing no effect on growth, and no degeneration of liver or kidneys, is rather misleading. He states that single exposures only are important, although he made no examinations to detect nerve damage. Lande, Derville, and Nun⁸ did produce hepatic and renal changes in animals.

McNally⁹ reports a case of alleged phosgene poisoning from inhalation of fumes from an open unventilated degreasing tank coming in contact with an open flame used to heat the tank. His patient had disturbed vision, chest symptoms, low blood pressure, and liver tenderness. Drinker,¹⁰ commenting on an abstract of this report, says that the phosgene factor was not proved, and I agree with him. It is known that both trichlorethylene and carbon tetrachloride will produce phosgene in the presence of an open flame, but in appreciable amounts only where the oxygen supply is limited and glowing hot metal surfaces are present, as is often the case when fire extinguishers are used in confined spaces. In these cases, toxic gases and fumes from incomplete combustion are also present and may predominate in the picture. Phosgene as a war gas was recognized as a very active corrosive irritant producing its effects locally in the lungs when, on coming in contact with lung

moisture, it breaks up to form nascent hydrochloric acid. It is in no sense a systemic poison, although it is a powerful destructive agent acting locally and leaving lasting or permanent damage.

Like almost any fat solvent, liquid trichlorethylene may produce a dermatitis on exposed surfaces or may act as a contributing cause in dermatitis produced by infective agents. Ramel¹¹ claims that trichlorethylene can have a specific catalytic action in the development of allergic dermatitis of bacterial origin. He reports such action in a case of hemolytic streptococcic infection. We have seen a case of obstinate dermatitis, in a dry cleaner using "trichlor," wrongly diagnosed by several dermatologists as a specific effect, while we found it, on careful examination, to be in reality a trichophytn eruption originating from a long-standing interdigital foot infection not directly connected with exposure and not looked for by previous examiners. This was naturally aggravated by constant wetting with the solvent. Indeed, in every outbreak of apparent industrial dermatitis the possible presence of a primary skin fungus or bacterial infection must be taken into consideration.

Jordi,¹² in Switzerland, calls attention to the habit-forming potentialities of this material in the case of youths using it for hypnotic purposes and developing a craving for it. Another potential harm from continuing exposure is shown by Kubo,¹³ in Japan, who injected rabbits with trichlorethylene, producing diminished typhoid agglutinin formation. This action, however, he found, was offset by glucose or levulose injections.

From what has been said, it will be evident that trichlorethylene workers should have pre-employment physical examinations to detect nervous pathology or weakness and circulatory disturbances. They should have an adequate carbohydrate diet, should be protected at work by adequate exhaust ventilation or closed processes to keep exposures within safe limits (below a 200 parts per million daily average for continuous work), and should be examined periodically to detect circulatory or nerve damage and damage in liver or kidneys, even though the latter is unusual.

Tetrachlorethylene.—We shall consider one more of the unsaturated compounds of the chlorinated hydrocarbons, namely, tetrachlorethylene, or perchlorethylene, recently coming into use in this country as a dry cleaner, as a constituent of dry cleaning soaps,

and as a rosin solvent for fabric and fiber impregnation. Its high boiling point, 121 to 122 C., makes it very effective as a degreasing agent.

This seems to be the least toxic compound among the entire group under consideration, although it likewise must not be considered as entirely free from menace. Unlike trichlorethylene, it has produced no nervous tissue manifestations, and, so far, no reported cases of chronic poisoning in man. Extended work by Carpenter,¹⁴ carried on at the University of Pennsylvania, showed that for animals no glandular lesions comparable to those observed with carbon tetrachloride were produced, even with exposures up to 470 parts per million for one hundred and fifty days—but only cloudy swelling of liver and kidney and splenic congestion, with increased pigment deposit. No blood changes were found, and no specific urine changes were observed.

In high concentrations, like others of the group, it is an anesthetic. Carpenter found that in human exposures, of volunteers from our staff, 4,600 parts per million produced mental fogging, dizziness, and fainting in five minutes; 2,000 parts per million, the same effects in seven minutes; 1,000 parts per million, light inebriation after one and a half hours; and 500 parts per million, no discomfort after two hours. When used as a defatting or degreasing agent it may cause dermatitis, or may exaggerate a skin infection already present. We found no evidence of toxic action in the dry cleaning industry, although in one plant where this material was being used in an antiquated machine we found a concentration of 280 parts per million during the 34-minute cycle, with a peak during a 1-minute unloading period of 4,636 parts per million. The operator had been employed there for two years and reported no ill effects, other than some discomfort on humid days. As a result of animal exposures, field observations, and experimental human exposures, we put the safe limit of concentration as somewhere between 100 and 500 parts per million, feeling that a closer approximation must await further human experience. We found no distinctive or pathognomonic signs or symptoms to indicate beginning poisoning, and so have no suggestion as to evidence of harm or as to specific treatment, other than, as with other compounds of the group, if harm is suspected, immediate removal from exposure and symptomatic treatment. We know of no reports of authentic cases of industrial poisoning from perchlorethylene.

Saturated Compounds

As previously stated, the saturated compounds are more likely to produce chronic poisoning, with evidence especially of hepatic or renal damage.

Methyl Chloride.—Methyl chloride, the simplest of this group, has been used principally as a refrigerating agent, and poisonings from it are mostly acute or subacute, and due to accidental leakage. On absorption this compound is decomposed to methanol and hydrochloric acid, and poisoning is due principally to the methanol formed. As methanol itself is nonreactive and very slowly eliminated, severe poisoning may develop from continuing exposure to small concentrations. Such poisoning is of slow development and recovery is slow. Gastrointestinal disturbances, as vomiting, diarrhea, and abdominal pain, may accompany excitement and even epileptiform convulsions. Most of the cases of methyl chloride poisoning reported in this country were in 1927 and 1929, in the making, installation, and use of multiple-unit refrigeration systems. Baker,¹⁵ in 1927, reported 27 cases with visual disturbances, ptosis, fine tremors, and staggering gait. Symptoms cleared up very slowly, but all recovered. In 1929 Kegel et al.¹⁶ reported 29 cases with 10 deaths, three of the nonfatal cases being industrial. Usually temperature, pulse, and respiration were increased; there was oliguria or complete suppression of urine for thirty-six to forty-eight hours. Evidence of acute nephritis was found in about half of the cases. Very few cases have been reported recently. Weinstein,¹⁷ in 1937, reported 2 cases with mild headache, fatigue, etc., with both recovery. Treatment in these cases should be symptomatic.

Ethyl Chloride.—Ethyl chloride, or monochlorethane, is used as an anesthetic and as a solvent and refrigerant. It is somewhat less toxic than methyl chloride, but its use as an anesthetic produces more excitement and restlessness. In the system it forms ethyl alcohol and hydrochloric acid. Action, therefore, is more rapid than in the case of methyl chloride and recovery is also more rapid. I have no record of industrial poisonings.

Methylene Dichloride.—Methylene dichloride, or dichlormethane, was formerly used as an anesthetic, but this has been discontinued because of fatalities. It has been used industrially as a solvent and paint remover, and in Europe, at least, in the artificial silk industry. As far as my records go, no cases of industrial methylene dichloride poisoning have been re-

ported in this country. Browning,¹⁸ in England, quotes Zernik to the effect that when free from impurities and used under conditions of good ventilation it is practically harmless, although Collier¹⁹ reports 2 cases with subjective symptoms only, as irregular but severe pains in legs and arms, hot flashes, headache, vertigo, mental dullness, clouded vision, anorexia, precordial pain, rapid pulse, etc.

Ethylene Dichloride.—We do find occasional reference to poisoning from ethylene dichloride, or dichlorethane, but although Lehmann classes it as more toxic than the higher members of the group and carbon tetrachloride, the cases of industrial poisonings from this material are very few. It has been used as a dry cleaning agent, as a solvent for crepe rubber, a perfume extractive, an insecticide, a refrigerating agent, and a solvent for cellulose acetate. Wirtschafter and Schwartz²⁰ report 3 cases of acute poisoning in workers cleaning knitting yarn with ethylene dichloride by dipping the yarn in an open vat and wringing it dry by hand. After four hours they developed dizziness, nausea, vomiting, muscular weakness, trembling, and epigastric cramps, followed by a severe dermatitis. They developed a leukocytosis, and showed a low blood sugar, suggesting liver damage. All recovered with calcium and carbohydrate therapy. All this is suggestive of carbon tetrachloride damage, although the limited animal work on record reports no liver or kidney degeneration. Browning²¹ states that it apparently has a specific irritating effect on the cornea in animals.

Chloroform.—Chloroform, or trichlormethane, is little used industrially in this country, and we have no record of industrial chloroform poisoning. Therefore we shall pass over discussion of it.

Carbon Tetrachloride.—This brings us to the consideration of carbon tetrachloride, or tetrachlormethane, the most widely used and most intensively studied of the chlorinated hydrocarbons. Because of its widespread use and because for some time it was used freely in open processes with no realization of its potential harmfulness and with no special effort to protect workers, it has been responsible for more cases of poisoning, some of them serious or even fatal, than has any other member of this group. The principal uses of this material are as a dry cleaner, as a degreasing agent, and as a fire extinguisher. Its great advantage over gasoline and naphtha in dry cleaning is its noninflammability. Even with careless and ignorant use of it resulting

moisture, it breaks up to form nascent hydrochloric acid. It is in no sense a systemic poison, although it is a powerful destructive agent acting locally and leaving lasting or permanent damage.

Like almost any fat solvent, liquid trichlorethylene may produce a dermatitis on exposed surfaces or may act as a contributing cause in dermatitis produced by infective agents. Ramel¹¹ claims that trichlorethylene can have a specific catalytic action in the development of allergic dermatitis of bacterial origin. He reports such action in a case of hemolytic streptococcic infection. We have seen a case of obstinate dermatitis, in a dry cleaner using "trichlor," wrongly diagnosed by several dermatologists as a specific effect, while we found it, on careful examination, to be in reality a trichophyton eruption originating from a long-standing interdigital foot infection not directly connected with exposure and not looked for by previous examiners. This was naturally aggravated by constant wetting with the solvent. Indeed, in every outbreak of apparent industrial dermatitis the possible presence of a primary skin fungus or bacterial infection must be taken into consideration.

Jordi,¹² in Switzerland, calls attention to the habit-forming potentialities of this material in the case of youths using it for hypnotic purposes and developing a craving for it. Another potential harm from continuing exposure is shown by Kubo,¹³ in Japan, who injected rabbits with trichlorethylene, producing diminished typhoid agglutinin formation. This action, however, he found, was offset by glucose or levulose injections.

From what has been said, it will be evident that trichlorethylene workers should have pre-employment physical examinations to detect nervous pathology or weakness and circulatory disturbances. They should have an adequate carbohydrate diet, should be protected at work by adequate exhaust ventilation or closed processes to keep exposures within safe limits (below a 200 parts per million daily average for continuous work), and should be examined periodically to detect circulatory or nerve damage and damage in liver or kidneys, even though the latter is unusual.

Tetrachlorethylene.—We shall consider one more of the unsaturated compounds of the chlorinated hydrocarbons, namely, tetrachlorethylene, or perchlorethylene, recently coming into use in this country as a dry cleaner, as a constituent of dry cleaning soaps,

and as a rosin solvent for fabric and fiber impregnation. Its high boiling point, 121 to 122 C., makes it very effective as a degreasing agent.

This seems to be the least toxic compound among the entire group under consideration, although it likewise must not be considered as entirely free from menace. Unlike trichlorethylene, it has produced no nervous tissue manifestations, and, so far, no reported cases of chronic poisoning in man. Extended work by Carpenter,¹⁴ carried on at the University of Pennsylvania, showed that for animals no glandular lesions comparable to those observed with carbon tetrachloride were produced, even with exposures up to 470 parts per million for one hundred and fifty days—but only cloudy swelling of liver and kidney and splenic congestion, with increased pigment deposit. No blood changes were found, and no specific urine changes were observed.

In high concentrations, like others of the group, it is an anesthetic. Carpenter found that in human exposures, of volunteers from our staff, 4,600 parts per million produced mental fogging, dizziness, and fainting in five minutes; 2,000 parts per million, the same effects in seven minutes; 1,000 parts per million, light inebriation after one and a half hours; and 500 parts per million, no discomfort after two hours. When used as a defatting or degreasing agent it may cause dermatitis, or may exaggerate a skin infection already present. We found no evidence of toxic action in the dry cleaning industry, although in one plant where this material was being used in an antiquated machine we found a concentration of 280 parts per million during the 34-minute cycle, with a peak during a 1-minute unloading period of 4,636 parts per million. The operator had been employed there for two years and reported no ill effects, other than some discomfort on humid days. As a result of animal exposures, field observations, and experimental human exposures, we put the safe limit of concentration as somewhere between 100 and 500 parts per million, feeling that a closer approximation must await further human experience. We found no distinctive or pathognomonic signs or symptoms to indicate beginning poisoning, and so have no suggestion as to evidence of harm or as to specific treatment, other than, as with other compounds of the group, if harm is suspected, immediate removal from exposure and symptomatic treatment. We know of no reports of authentic cases of industrial poisoning from perchlorethylene.

increased resistance. We have found no workers continuing in carbon tetrachloride work for over five years who showed any evidences of harmful effect. We have examined men working in the manufacture of this material for twenty years or more who gave histories of rather severe poisoning in the first years, necessitating temporary discontinuance of work, but who had had no symptoms for ten or fifteen years. This bears out our findings in animal exposures, where animals exposed for two months to concentrations producing severe hepatic and renal damage in other animals of the same group, were, after a two months' rest period, completely recovered, and were then little if at all affected by acute exposures severe enough to produce grave lesions in normal animals. We found that regeneration of damaged liver and renal tissue was the usual occurrence.

Severe, and in some cases fatal, poisonings have been associated with the use of carbon tetrachloride as a fire extinguisher, but almost always where use was in confined spaces. Under these conditions, with very limited air supply, in the presence of glowing metal surfaces, phosgene gas will be formed and will contribute to the picture of acute lung damage; but here there is, at the same time, production of carbon monoxide, chlorine, and hydrochloric acid fume, which also contributes to the total damage. We therefore feel that the danger of phosgene effect has been overrated, and in no sense can carbon tetrachloride poisoning be attributed to phosgene formation in the body. Phosgene can certainly be excluded as a cause of the hepatic and renal damage.

Diagnosis of chronic poisoning from carbon tetrachloride is based on the symptoms previously referred to, with the finding of a high icteric index (over 8), a high indirect van den Bergh test (over 0.2 mg. per hundred cubic centimeters), and a high blood nitrogen value. Domart feels that the degree of urea excretion following restoration of urinary secretion after the anuria of the renal types has a direct bearing on prognosis. If the urea accumulated in the anuric phase is rapidly eliminated, with early return of urinary urea to normal, the prognosis is always good.

Domart summarizes the symptoms of the hepatorenal forms as follows: general discomfort and headache preceding digestive disturbances; possible epistaxis; light jaundice; after forty-eight hours, nephritis with oliguria or anuria; headache, insomnia, and agitation, followed by torpor and prostration.

Edema is variable. Anuria may last from three to five days. With return of urinary secretion, albuminuria decreases rapidly, followed by decrease in urinary urea. With this development, prognosis is good. Pure hepatic forms without nephritic symptoms usually recover with no sequelae.

Prophylaxis consists in control of exposures, maintenance of a high carbohydrate and high calcium diet, and pre-employment physical examinations, with exclusion from work of alcoholics, those with cardiac weakness, and those with any evidence of hepatic or renal injury. Physical examinations should include tests for icteric index, indirect van den Bergh tests, and the usual blood and urine examinations.

Workers continually exposed to any but minimal concentrations should be examined at least semiannually, as above. They should be advised as to an adequate diet as indicated, and as to abstinence from alcoholic excess. Constipation should be avoided. Wirtschafter²⁴ has reported concentric constriction of visual fields as a sign of carbon tetrachloride poisoning, and our field tests seem to confirm this; therefore, this test might well be included in the periodic examination program.

Treatment should be based on maintenance of blood sugar and calcium. G. G. Davis²⁵ advises, in severe cases, the administration of intravenous glucose, as calcium gluconate, with pushing of carbohydrates by mouth when the stomach permits, absolute rest in bed, and liquid diet.

Domart advises, in the renal cases, hot compresses to the lumbar regions, or cupping, and a diet low in salt as a precaution against edema, which frequently develops. In pronounced oliguria he advises intravenous injections of 30 per cent calcium gluconate solution—possibly two daily injections of 100 cc. each—and warns against giving the usual diuretics. Ten to 20 Gm. of sodium bicarbonate by mouth may be given to restore a lowered alkali reserve.

One precaution is essential. In no case should adrenalin injections be given, as they may produce a fatal ventricular fibrillation. This reaction has been pointed out by Dautrebande²⁶ in cases of benzol poisoning.

Tetrachlorethane, Pentachlorethane.—Tetrachlorethane and pentachlorethane are without doubt the most toxic of the chlorinated hydrocarbons. The former produced numerous cases of severe poisoning and death at the time of World War I, due to use of it as a solvent for airplane wing dope, but at present it is

in severe or fatal poisonings, it has been responsible for far fewer fatalities than have petroleum products. As manufactured and marketed in this country, carbon tetrachloride is a remarkably pure product and we need give no consideration to the effects of impurities in it.

In high concentrations it is like all of the group, an anesthetic and cardiac depressant, and deaths from acute exposure are cardiac deaths. If the worker survives the acute exposure there may be a delayed toxic action, with pulmonary edema, cardiac depression, and nephritic symptoms with oliguria or even complete suppression of urine. In the case of lighter exposures the chest symptoms pass out of the picture and hepatic or renal symptoms predominate, either almost purely hepatic, hepatorenal, or purely renal in type.

Carbon tetrachloride is not readily decomposed in the system, and, as far as we know, it acts integrally when inhaled or ingested. It may also be absorbed through burned skin areas or open wounds, although the most usual cases of industrial carbon tetrachloride poisoning are due to fume inhalation. It has been used to a considerable degree as a vermifuge, as have trichlorethylene and tetrachlorethylene, but time does not permit of detailed reference to this use. Acute poisonings are usually recognized as such, and the victims are usually promptly removed from further exposure, but chronic poisoning may develop insidiously and severe damage occur before the cause is recognized.

Associated with chronic poisoning we find an increase of blood guanidine, to which some workers have attributed the liver damage; low blood sugar and blood calcium; an increased icteric index and indirect van den Bergh reaction as indication of liver damage; and at times the presence of bilirubin in the urine. An increase in blood lipoids has been demonstrated in exposed animals. McMahon and Weiss²² report the finding of a high percentage of fat in the heart blood of a fatal case with severe liver damage.

Personal susceptibility varies greatly, but as a result of a large number of animal exposures, and physical examinations of over a hundred workers, with 2,000 interferometer measurements of vapor concentrations to which the workers were exposed (measurements being taken through the entire working cycles), we have stated that 100 parts per million is a safe concentration for continuous exposure. Intermittent exposures averaging 100 parts per million are also safe. We be-

lieve that 1,000 parts per million is a safe peak concentration for not over one-half hour, with the average for the rest of the day not over the 100 parts per million level.

A saturation of 100 parts per million of carbon tetrachloride is noticed, by most people coming into the atmosphere from one free of carbon tetrachloride, as a barely perceptible odor. If the average nose recognizes more than a faint odor on entering a workroom, an increase in ventilation or a more complete inclosure of the process is called for.

Exposures to very high concentration of carbon tetrachloride may result in almost immediate unconsciousness and death, but such fatalities may be delayed, with death occurring up to twelve days after exposure. In these cases severe complaints may not begin for one or two days. Then the worker may complain of headache and nausea, with temperature rise. Pulmonary edema may develop, followed by pneumonia, as in a fatal case I saw, or tonic or clonic convulsions may appear, followed by unconsciousness. Later the patient becomes cyanosed, dyspneic, and covered with cold perspiration, and develops a weak and rapid pulse. Urine may be scanty, with high albumin content and presence of white and red cells, and the patient may die in uremic state. Brief exposures to high concentrations may result in temporary narcosis with recovery without evidence of hepatic or renal injury.

The most comprehensive clinical studies on carbon tetrachloride poisoning appear in a doctoral dissertation by André Domart²³ published in Paris in 1938. In addition to the fatalities from acute effects already referred to, which are not common, he recognizes hepatic, hepatorenal, and predominantly renal types, though in all cases there is more or less damage to both liver and kidneys.

In our experience and observation, patients surviving acute attacks usually progress to complete recovery. Hepatic cases present the picture of fatty degeneration of the liver which, if exposure continues, progresses to a picture of toxic hepatic cirrhosis. These cases start with nausea, vomiting, dizziness, gastrointestinal disturbance, jaundice, and hepatic tenderness with liver enlargement. Even with the clinical picture of hepatic cirrhosis, proper treatment, if continued, may lead to complete clinical recovery. In contrast to the effects of poisonings by many other industrial solvents, patients who recover from chronic carbon tetrachloride poisoning are often able to return to work with a definitely

ill effects result from a continued or intermittent condition of low-grade narcosis, of varying degrees of intensity, and, if so, precisely what these effects are and how they may be detected at an early stage, before clear-cut disease entities have made their appearance.

Our medical staff is wrestling with this problem at the present time. We are attempting to find a useful measuring stick for narcosis which would make possible the accumulation of just such data. While the approach to the problem is a theoretical one, its implications are highly practical for the control and prevention of occupational diseases. Perhaps some of the members of this audience will be sufficiently interested to work on it.

That a combination of toxic substances is apt to be more toxic than is the sum of its toxic components is a general principle which we hear reiterated from time to time. It apparently has a substantial basis in experience, both in the experimental toxicological laboratory and in industry. For this reason I should like to tell you briefly about an interesting case which came to our attention, where there was exposure to a combination of several of the chlorinated hydrocarbons we have been discussing.

This man, 26 years of age, was engaged in applying a paint remover in reconditioning elevators in buildings. Because of the nature of the work, no ventilation was provided. The paint remover contained carbon tetrachloride, chloroform, and a considerable number of the higher chlorinations of ethane, propane, butane, and pentane—the exact chemical components being unknown even to the producers because of the overlapping of boiling points.

The man worked with the paint remover for about a year and lost some 40 pounds in weight during this period. We have no knowledge of other elements in the clinical picture during this time because we learned of the case only after his death. About five days before admission to the hospital, however, he complained of severe abdominal pain with vomiting, and presented a general picture of surgical abdomen.

Examination of his blood in the hospital prior to operation showed that he had a white cell

count somewhat below 3,000 and a red cell count slightly above 3,000,000. There was a marked increase in bleeding and clotting time and platelets were greatly reduced. A laparotomy revealed necrotic ulcerations of the colon. The bleeding was such that nothing could be done. At autopsy he was found to have an aplastic anemia with a granulocytopenia, generalized purpura, toxic nephrosis and hepatosis, and necrotic ulcerations of the colon.

The combined injury to the hemopoietic system, liver, and kidneys presented by this case is of the greatest interest in view of the nature of the exposure. Even the necrotic ulcerations are of special interest because they are a frequent accompaniment of agranulocytosis, being found more often, however, in the mouth and throat than elsewhere. However that may be, and regardless of whether, in this particular case, the disease actually was caused by the paint remover, the clinical picture is so suggestive of what might be expected to occur under the circumstances that it is very impressive indeed. In fact, one would almost feel the need to invent such a case for teaching purposes if it did not exist.

Before closing, I should like to say one word about a fourth case we are about to report of poisoning from exposure to one of the chlorinated naphthalenes. It relates to an interesting question of therapy in these cases. As you know, it is customary to treat cases of toxic hepatitis with a high carbohydrate diet. The girl in question had been in the hospital for five weeks, running a steadily downhill course on this accepted therapy. Then one of the doctors suggested that because her serum protein continued to be very low, and she was excreting large amounts of albumin in her urine, an attempt be made to treat her with a high protein diet as one would treat the ordinary case of nephrosis. With the institution of this regimen the patient steadily improved and ultimately recovered. This interested us very much, because it is believed that a person suffering from a toxic hepatitis associated with a blood dyscrasia is apt to have a low serum protein.

LONGEVITY OF PHYSICIANS

Physicians always advise their patients how to live longer and better; they themselves often die prematurely of preventable or at least postponable causes. The prevalence of deaths from heart disease, particularly coronary disease, among relatively young physicians has in recent years increased sharply. Coronary disease has come to be known among physicians as "doctors' disease." Doctors favor health supervision without waiting for illness to appear. In 1922, the National Health Council and the American Medical Association declared themselves in favor of periodic health examinations of apparently healthy persons. The American Medical Association has published a manual¹ and a blank² in

the hope of stimulating medical interest in periodic health examinations, and several pamphlets³ intended to interpret the idea to the layman. Nevertheless, except for insurance-company and industrial periodic examinations, the idea has not become popular. . . .—J.A.M.A.

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little used in industry. These substances act as does carbon tetrachloride, and the same advice as to prophylaxis and treatment applies.

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Discussion

Dr. May R. Mayers, *New York City*—Dr. Smyth has presented such a comprehensive discussion of the subject that I am afraid there is little I can add. However, we have had some first-hand experience with the halogenated hydrocarbons in New York State, and I may say a few words about some of the medical questions which have especially interested us recently and some of the investigative procedures they have suggested to us.

As Dr. Smyth has properly emphasized, this whole group of substances, even in relatively low concentrations, tend to have a somewhat narcotic effect upon persons exposed. Low-grade narcosis, such as one sees in workers exposed to trichlorethylene, for example, tends to make them drowsy, irritable, restless; and they are apt to complain of vague subjective gastrointestinal disturbances which are not easy to verify on physical examination. It has been our experience that, with everyone psychiatri-

cally minded nowadays, there is a tendency to look upon these people as cases presenting personality changes, and to refer them for study to a near-by psychiatric clinic, without stopping to investigate the occupational history. In fact, we have had ample experience to indicate that grave mental and neurologic changes, frequently indistinguishable clinically from true psychoneuroses, or even psychoses, may result from exposure to solvents of various sorts. I wish, therefore, to warn against a diagnosis of mental disease without careful investigation first of the occupational exposure of the patient.

Before leaving trichlorethylene, I should like to refer to an explosion which recently occurred during use of this supposedly nonexplosive substance, believed to have been due to using it in a degreasing tank located in close proximity to some welding operations, where unusually high temperatures were being generated. Particularly now, when welding operations are rapidly multiplying in industry, the possibility of such a contingency should at all times be borne in mind.

Carbon tetrachloride is the substance which continues to give us more compensation claims in New York State than do any of the other chlorinated hydrocarbons. This may be due to the fact that practicing physicians are, in general, unfamiliar with the toxicological properties of the other members of this group, but do more often than not recognize and correctly diagnose cases of liver damage due to carbon tetrachloride. We thus have no way, unfortunately, of appraising with any degree of accuracy the relative incidence of occupational diseases caused by the individual substances under consideration.

The question of maximum permissible limits always presents a fertile field for discussion. In the case of carbon tetrachloride, as you know, the accepted limit is 100 parts per million. You will be interested, therefore, in a recent experience we had in a plant using this substance to clean motion picture films. Despite the fact that the concentrations never exceeded 100 parts per million, and were usually 80 parts per million, all of the boys working in this atmosphere complained bitterly of drowsiness, fatigue, and in some cases of loss of appetite, nausea, and even vomiting. When, at our suggestion, the leaks in the drying room were repaired and ventilation improved so that the concentrations of the carbon tetrachloride were still further reduced, all symptoms disappeared. We are inclined, therefore, to drop the permissible limit for this substance below 100 parts per million.

Low-grade narcosis is a most interesting medical phenomenon about which we know far less than we should. We should like, for example, to be able to make up our minds as to precisely what degree of narcosis must be present before we say a person is "sick" or "disabled." We should also like to have sufficient data to enable us to determine more accurately than has been possible to date whether any permanent

ill effects result from a continued or intermittent condition of low-grade narcosis, of varying degrees of intensity, and, if so, precisely what these effects are and how they may be detected at an early stage, before clear-cut disease entities have made their appearance.

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THE USE OF BOVINE ANTITOXIN FOR THE PROPHYLAXIS OF TETANUS

JEROME GLASER, M.D., Rochester, New York

APPROXIMATELY 50 per cent of all deaths from tetanus in the United States occur in children under 15 years of age, so that the prophylaxis of tetanus is at least as important to the pediatrician as to any other medical specialist. Toxoid would appear to be an ideal agent for the prophylaxis of tetanus but this procedure is not yet in general use. Because of my particular interest in allergy as related to pediatrics, the majority of my patients are either allergic themselves or members of families with major allergic diseases. My experience with horse serum tetanus antitoxin in treatment of these patients was consistently disagreeable. In 1933 it was brought to my attention that a bovine tetanus antitoxin was being made in this country, and since that time I have used no other preparation.*

Bovine antitoxin for the prophylaxis and treatment of tetanus and diphtheria was introduced by Kraus^{1,2,3,4} and his associates in Buenos Aires about 1921. They did this because a large experience in the therapeutics of typhus and human anthrax had shown marked freedom from reactions following the use of normal bovine serum. They demonstrated that bovine tetanus and diphtheria antitoxic serums were just as effective as similar equine preparations, while their use was to a large extent free from the disagreeable sequelae of horse serum.

Bovine tetanus antitoxin was introduced into this country in 1929. Since the original work of Kraus there has been very little pub-

lished on this subject, though in 1936 Glaser and Landau,⁵ in discussing the prophylaxis of allergic disease, advised the use of bovine tetanus antitoxin with particular reference to the avoidance of serum reactions and of sensitization to horse serum.

My experience with bovine tetanus antitoxin comprises 38 cases. The patients ranged in age from 1½ to 18 years, with an average age of 7. Although I have used the preparation in adult cases, none are included in this series; but it may be said that adults tolerate the serum fully as well as children. Time permits the reporting in detail of only two of the most interesting cases.

Case Reports

Case 1.—This boy was admitted to the emergency treatment room of the Genesee Hospital for treatment of numerous brush burns and scratches received in an automobile accident in which he had been dragged for a distance along the road. The attending physician advised tetanus antitoxin and the boy was given a routine intradermal test with horse serum diluted 1:10. Immediately following this he became cyanotic and unconscious, made convulsive movements, and appeared about to expire from immediate anaphylactic shock. However, he revived upon the subcutaneous injection of epinephrinehydrochloride, 1:1,000 solution, and with artificial respiration. He was kept in the hospital overnight and referred to the Allergy Clinic, where he appeared a few days later. At this time he was tested with 1:10 bovine serum intradermally, with negative results (following a negative scratch test to the same substance) and 1,500 units of bovine tetanus antitoxin were given in divided doses over a period of one hour, with no difficulty whatsoever. The boy was detained at the hospital for several hours before being sent home. Two weeks later he reappeared at the clinic and reported no symptoms which might be interpreted as a serum reaction. This was the only case which was not treated in private practice, and coming early in the series impressed upon all observers the value of bovine tetanus antitoxin.

Case 2.—This boy had had asthma since the age of 2. At the age of 8 he came under treatment, which was discontinued against advice at the age of 11. He had been completely free from attacks during the last year of treatment, except for two occasions, when adequate and easily avoidable exposure caused mild attacks. On

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*All of the bovine tetanus antitoxin used by the author was purchased on the open market and was prepared by the Mulford Biological Laboratories, Sharp and Dohme Company, Philadelphia, Pennsylvania. As far as the author can determine, no other bovine tetanus antitoxin is prepared in the United States or Canada. Until the lyophil preparation (Lyovac), which has a five-year dating, became available in 1939, the conventional liquid serum was used. The lyophilized tetanus antitoxin (bovine) is available in 1,500-unit and 10,000-unit doses. Each package contains a 1 cc. ampule of normal bovine serum (diluted 1:10) as test and hyposensitizing material. If the preparation becomes outdated before use, it will be exchanged by the company without charge.

July 4, 1940, while he was visiting in a neighboring town, a firecracker exploded in his hands, severely lacerating the fingers and palms. The wounds were treated by a local physician, who also attempted to administer horse serum antitoxin, despite a strongly positive skin test. The patient was given two injections, of an unknown but small amount, at half-hour intervals. Half an hour after the second injection he experienced itching about the eyes, broke out with generalized urticarial wheals, and complained of abdominal pain and difficulty in breathing. The symptoms were relieved by the administration of epinephrine hydrochloride and the boy was brought back to Rochester.

The following day he was somewhat edematous and asthmatic and suffered from nausea and vomiting. A day later he was given a scratch test to bovine serum, and this was followed by a negative intradermal test to the same substance. Thereupon 1,500 units of bovine tetanus antitoxin were given in divided doses without difficulty. Two days later the patient experienced a severe delayed reaction to the previous injections of horse serum. This was evident because of severe local reactions at the site of the previous skin test to horse serum and at the two sites where the small amounts of horse serum had been injected. There was no reaction whatsoever at the sites of testing and injection of the bovine serum. He was uncomfortable for a number of days, and when the reaction cleared up about six days after the original injury, he was again given 1,500 units of bovine tetanus antitoxin, with no disturbing sequelae then or any time later.

In three instances, because of subsequent injuries occurring from weeks to months after the first injection of bovine tetanus antitoxin, it was necessary to repeat the injection. Disagreeable sequelae of any kind were not encountered.

The personal history of the patients was known in all but 1 case. Among the remaining 37 children there was a personal incidence of allergic disease to the extent of approximately 49 per cent. Certainly a series of this type should be suitable for testing the safety of the parenteral injection of a foreign protein.

Of the 38 patients in the series 15 cases (39.5 per cent) experienced some reaction to the bovine antitoxin, varying from a questionable itching at the site of injection of the serum to two instances of moderately severe serum sickness. The incidence of serum reaction was equally divided between the patients with a personal history of allergy and those who had no personal history of allergy. The usual reaction was the appearance of a few urticarial wheals lasting from a few minutes to a few hours. In no case in this series was there an immediate anaphylactic reaction to the bovine

tetanus antitoxin, and in only one instance was the serum sickness so severe that the parents desired the child to be seen by the physician.

The only published report on a series of reactions following the prophylactic injection of horse serum for tetanus in amounts comparable to those of bovine serum employed in my series is that of Lyall and Murdick.⁶ These authors published the results in a series of 1,000 cases of all ages. Of these, 15.2 per cent developed generalized reactions (of which only 0.2 per cent were alarming) as compared with two generalized reactions (neither of which was immediate nor alarming), or 5.1 per cent, in my series. The protein content of the horse serum averaged 9 per cent, that of the bovine serum 7 per cent. My series, however, is so small that this comparison with the series of Lyall and Murdick possesses only academic interest.

It is attractive to speculate that most individuals are relatively immune to bovine serum because the proteins of the serum are probably much the same chemically and immunologically as those of beef and milk, and that through the ages as man has used these substances for food he has built up an adequate mechanism for detoxifying these proteins. However, we know that this is not true because cow-milk sensitivity is the most common form of allergy encountered in infancy. The explanation doubtless lies in the observation of Wells and Osborne⁷ that animals fed with milk are not good subjects upon which to try anaphylaxis experiments with milk, as they may have acquired more or less of an immunity. Incidentally, this observation probably explains the rarity of acute anaphylaxis in man following the use of milk protein for nonspecific foreign protein therapy. I have had no experience as to what might happen if a milk- or beef-sensitive individual were given bovine serum.

Conclusions

1. Bovine tetanus antitoxin has been used with safety in selected cases known to give severe anaphylactic reactions to horse serum.

2. The only indication for the use of equine tetanus antitoxin is in those cases where the individual is known to be, or can be demonstrated to be, sensitive to the bovine but not to the equine preparation.

3. Individuals undergoing study for allergy should be tested routinely with equine and bovine serum. This should be done by the scratch method only, to avoid as far as

possible sensitizing the individual to the serum. If the individual is sensitive to both serums he should be immunized by means of tetanus toxoid.

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"NIACIN" ADOPTED AS SYNONYM FOR NICOTINIC ACID

A synonym for nicotinic acid, the antipellagra factor in vitamin B₃, has been selected by a committee named for that purpose by the Food and Nutrition Board of the National Research Council, it is reported in the *J.A.M.A.* for March 7, 1942.

"Niacin" has been selected for nicotinic acid and "niacin amide" for nicotinic acid amide. The Council on Foods and Nutrition of the American Medical Association announces that it has approved these synonyms for preparations that come within its scope. Niacin is pronounced with a long *i* and a soft *c* (ni'a-sin).

Discussing the selection of these terms, an editorial in the same issue of the *Journal* says: "The choice of 'niacin' appears to be a happy one. The name is not therapeutically [from a treatment point of view] suggestive. Although 'niacin' is not altogether suitable from the purely chemical point of view, chemists and other scientists generally will continue to use the older terms, which to the initiated are unobjectionable. Whether the new names will overcome resistance to the greater use of enriched flour and enriched bread remains to be seen. They deserve to meet general approval."

Discussing the reasons for the selection of these synonyms, the editorial says:

"A poor name is a handicap to the promotion of a meritorious product. The name 'nicotinic acid' for the vitamin so important in the prevention of pellagra has been doubly unfortunate. To the general public the word 'nicotinic' implies

too strongly the relationship of this vitamin to nicotine, the chief alkaloid of tobacco often used as an insecticide. The term 'acid' denotes a corrosive substance such as the liquid used in automobile storage batteries. The vitamin called 'nicotinic acid' was first produced in the laboratory in 1867 by the oxidation of nicotine with potassium chromate and sulfuric acid. Later the compound was named nicotinic acid because it had been made from nicotine and it had the ability to form salts. As a laboratory curiosity, which it remained for over seventy years, nicotinic acid was adequately named. From the point of view of those interested in furthering the distribution of foods enriched with this dietary essential, the name has proved unsuitable.

"Following the announcement of proposed regulations for enriched bread by the Food and Drug Administration, a well-known trade publication announced the event with the heading, 'Tobacco in Your Bread,' because nicotinic acid happened to be one of the dietary essentials which is added to the product. Although nicotinic acid was first produced from nicotine, and even now a small proportion of this substance is being produced commercially in this manner, the implication that tobacco is contained in enriched bread is far from true. Most of the nicotinic acid of commerce is produced by the oxidation of beta-methylpyridine, a coal tar derivative. Although nicotine is a toxic substance, nicotinic acid is a vitamin essential to life."

VISITING PROFESSORSHIP PLAN

The Long Island College of Medicine is introducing an old idea in a new form through a series of visiting professorships, financed by a grant from the Commonwealth Fund of \$4,500 a year for three years. Proceeding on the idea that all departmental heads would like to strengthen some phases of their teaching program, the college is inviting scholars from other institutions for short periods to make specific contributions to the curriculum.

Dr. Thomas Addis, Stanford University School of Medicine, joined the Long Island faculty March 16, as the initial visitor under the new plan. He will remain for six weeks as the guest of Dr. Tasker Howard, professor of medicine. Dr. Wilson G. Smillie and members of his staff at Cornell University Medical College have ac-

cepted the invitation of Dr. Wade W. Oliver, professor of bacteriology, to give the spring trimester course in parasitology and tropical medicine to the second- and third-year classes.

"Because of war conditions with their drain upon our faculties, there will be need for great flexibility in the efficient use of available teaching resources. Though war conditions may make the application of the visiting professorship plan more difficult, the opportunity for selective strengthening of a medical faculty is especially inviting at a time when budgets lag behind the rapidly growing demands made upon them. Not all of the benefits should accrue to the host institution, for, if the plan justifies itself, it is to be hoped that it may be extended to other schools as well," writes the L. I. college.

RELATION OF A SPECIALIST TO THE GENERAL HOSPITAL AND ITS PERSONNEL

FRANK M. SULZMAN, M.D., Troy, New York

IF WE give thought to this subject, several factors will focus our attention, and in order to analyze the conditions properly, let us first divide our hospitals into three classes:

1. The general hospital in which a separate and distinct portion of building and personnel are turned over to the specialist, as for the work of the eye, ear, nose, and throat men: while part of a general hospital, this is a distinct unit in itself;

2. The general hospital that has on its staff men associated with our specialty, who are given ward and room privileges for their patients, and that also has rooms in the operating suite suitable for this particular work;

3. General hospitals that call specialists as consultants and have no attending staff, but depend on men from other places for this work.

As the first classification represents an almost ideal condition, let us stop for a time and contrast the situation of a man working in this type of hospital and that of men related to the two latter types.

The first man has the benefit of three important divisions, laboratory, x-ray, and nursing trained for special work, and, with a well-trained house staff sympathetic to the work, an apparently ideal setup is encountered. Unfortunately this is not the ideal condition that many of us work in.

Contrast this with the situation of a man who does clinic work one or two days a week. His patients are placed in general wards together with seriously injured or ill patients. This does not furnish the calm and reasonably quiet surroundings that a patient recovering from a major eye or ear operation requires. For those of us who are connected with so-called general hospitals, it has, I am sure, been increasingly difficult to overcome certain factors with which our colleagues who work in hospitals entirely devoted to our specialty are not confronted.

Let us consider the problems of staff and staff conferences, interns, nursing, and laboratory and working conditions. How can we increase interest in our work at the hospital conferences or county medical society meetings? It is common knowledge that to read a

paper dealing with one of the many problems in which we are interested is a waste of time and little appreciated by a mixed group, by whom our work plainly is not well understood. Papers dealing with subjects combining their work and ours seem to have value and interest for them, but papers on operative work, like cataract, strabismus, mastoid, etc., have little interest for them.

What can we do to make the position of the specialist less subject to criticism and opposition? Do certificates of the different boards help to solve this problem? Shall we endeavor to stop the widespread specialty work done by many general men?

Staff Appointment

In regard to specialists, what standards should be required as qualification for staff appointments? Certain questions arise that need clarifying by men classifying themselves as specialists. For instance: how often are we asked to recommend a man whom we know to have a meager training and such training, in many cases, of doubtful character and subnormal standing? If you refuse to sanction such a man, you are accused of being personal and afraid of him as a competitor. These unpleasant conditions are not rare, and I feel that some definite standard should be set before a man is eligible for a staff appointment.

A few personal thoughts on this may be of value. Should not a definite assistantship and internship, or residency in a well-recognized special hospital, or in a general hospital having a properly trained special department, be necessary? Regarding certification by one of the boards, we know that this is a debatable point, but the time is fast approaching when it will be necessary to settle this question. It will prevent much of the present handling by general men of tonsil and other operative work that properly belongs to a special department. Insistence that this work be done by men properly qualified will help to solve the difficulty and remove a source of friction and ill feeling among departments.

Each department should have a chief who by training and experience merits the confidence of his colleagues and who holds certi-

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fication by one or more of the recognized American boards, and an active attending staff for the ward and clinic work. The latter should be made of mutual interest by weekly conferences on the material for operation and treatment.

House Staff

One member of its personnel should have a definite service and duties in a specialty department, to become familiar with the active cases. In emergency and night work he could do valuable service for both the patient and the attending men. Our work being somewhat limited, we usually have to share the time of the intern on our service with other special services. In many instances, one seldom sees a house man except when operating. It is well nigh impossible to train your house staff under such circumstances except in operative work. Valuable clinical experience, ward rounds, etc., are all mostly forgotten or omitted.

Nursing

A training school where adequate teaching is given, so that the procedure of treatment, preoperative, operative, and postoperative, will be properly carried out. It is the experience of many that graduate nurses from distant points present a difficult problem in nursing care, when their training has been of a quality not in conformity with modern methods and treatments.

Laboratory is another subject that may well be considered in a mixed meeting, as problems of mutual interest are bound to come up.

Since the specialist sees a limited number of cases, his x-ray and laboratory work are in many instances not taken with the seriousness or wholehearted cooperation needed to solve some of the difficult problems that too often occur. Unless the laboratory is specially trained, the cultures and smears will not get the detailed examination so necessary to arrive at a proper diagnosis.

One of the main difficulties in our x-ray work—with this many will agree—is proper position for mastoid and sinus pictures. It has been our experience to have sinus plates reported negative, while clinically and by operation we have found an antrum filled with pus—this by a man who really tries to furnish good pictures, but fails to compare his technique with that of colleagues in the same work and so keep abreast with new methods, so helpful in solving these difficult diagnostic problems.

In our monthly clinical meetings with the general staff, someone representing our specialty should be on the program committee, as we can thus arrange many of the meetings so that the program will be of mutual interest. For example, in relation to anesthesia, it will be found very valuable and of great general interest to invite some of the well-known men who specialize in this field to address us, so that new and better ways of using our older anesthetics will be developed, and interest in the newer ones stimulated.

X-ray

Many of our local men might talk on this subject, but it is well to have some new personality with different connections appear once or twice a year. It will add much practical information in an important field.

Diet

While this may seem foreign to my subject, a knowledge of present-day advances in this extensive field is highly desirable and useful. The marked advance in the knowledge of feeding infants is only a forerunner of what may be expected in other fields.

Allergy

This wide field, still in its infancy, can be a most profitable source of practical information for all.

General Medicine

I believe that a lot of valuable information is lost by not having the proper consultations between the different departments and the specialist. For instance, all diabetic, nephritic, and arteriosclerosis cases, and the so-called cardiorenal group, should be seen by the attending specialist and fundus changes noted at frequent intervals. This would give valuable data to have later for information. Regarding treatment and other factors influencing these cases, it would also be a source of excellent instruction for house staff members to use the ophthalmoscope under proper guidance.

General Surgery—Head Injuries

How can we best get our colleagues to refer head injuries for examination, even if no wound is observed near the organs of special sense? If consultations in all head injury cases were compulsory, we would be in a better position to make important observations now lost sight of in many cases. Changes in the ear, if any, could be included in the

useful information that would be obtained after these examinations, and help clear up some of the disputed points that arise later. I have in mind several cases that were not examined for fundus changes or otherwise, that left the hospital and came back later with severe intracranial symptoms that might have been anticipated had a previous examination of the fundus, etc., been made.

Pediatrics

Further information on the disputed points of ear conditions associated with gastrointestinal symptoms could be worked out. All strabismus cases should be referred by the pediatrician for eye examination. Many, if seen early, could be advised concerning treatment, even though they might have come into the hospital with conditions not associated with the eye. The same applies to routine nose and throat examinations. These cases should be examined by the attending staff in specialty departments, as laryngoscopy, and bronchoscopy in chest cases.

An arrangement such as we have outlined above will give opportunity for better service and allow us properly to arrange our time in the hospitals and elsewhere. It would also tend to safeguard against the pitfalls we now often encounter, in being asked to see a case that has been in the hospital several days and should have been referred for our examination after the admission examination. These examinations often conflict with prior engagements and do not allow us time to go into details which may be vitally important.

On the other hand many attending men in general hospitals give several hours weekly to attendance in clinics held on one or more days a week. At the end of the year this amounts to many hours of hard, thankless labor. It has become increasingly apparent that the poor, who we all agree should be taken care of, and for whom we all willingly and wholeheartedly give the best we have, are being crowded out of the average clinic. Nowadays we find in the free clinic many who could well afford to pay at least a moderate fee, but who for one reason or another seek the benefit of free services. Our eye clinics are largely made up now of refractive work that requires hours of labor to care for properly.

It is exasperating to spend one's time doing this work and find patients coming back in a week or two with expensive frames and fittings. Of course these may be purchased on credit, but more than likely are paid for. It is

disconcerting to see this, and it is not an infrequent occurrence.

The number of tonsil and adenoid cases reporting to the clinics for operation is steadily increasing. It is unpleasant to meet one of your colleagues after you have been working several hours in a clinic or operating room on service work, and be told that the individual you have just operated on as a charity case has this man for a regular family physician, and that he is paid. Cooperation should be obtained to prevent this violation of the principles of fair play, which in the end will work no good for either side. For only a little later the general man or surgeon will find a similar condition in regard to some of the cases upon which he operates.

Some years ago we tried out a system of cards, which were given to the patients at their first visit to the clinic, to hand to their family doctors to fill out. The card bore this simple question: "Do you think the patient eligible for free clinic work?" The family physician, of all parties concerned, should know the person's circumstances; yet, strange as it may seem, we received very little cooperation, and the expense of the cards, printing, etc., was considered too much for our county society to continue to bear. Yet it is of vital importance in overcoming any such nuisance that all should bear a fair share in eliminating the abuses.

The third major problem to confront is us the child or adult with impaired hearing. One is given a report that the child has impaired hearing, by a test conducted at his school. The average school doctor or nurse is not a specialist. These tests are made and a report is sent, and we are called upon to verify it.

This is a real job, in most cases requiring time and thought. It involves great social and economic responsibility and much depends on one's judgment. An increasing number of these cases present themselves each year, and, with the refractive work, take a major portion of one's clinic time. How far are we justified in going further with this work without some financial recompense, as it adds neither to one's experience or even interest but is just plain hard work? It is time that some more equitable distribution of public moneys be made, on the basis of compensation for work really done. I say this not in behalf of socialized medicine—far from it. But funds are allotted for nearly everything else, and it is manifestly unfair to ask that such work be continued longer on a charitable basis.

Conclusion

1. An opportunity exists to avail ourselves of material that may reveal important data on clinical subjects which are now seldom systematically examined by the specialist. These data could be made a research study of value not only to the specialist but to the different departments in a hospital.

2. Closer cooperation and active participation at clinical conferences and county society meetings will give evidence of our ability to meet present-day problems in our specialty.

3. Let us all endeavor to have some standard established for qualifying a man as a specialist, and thus prevent some of the mediocre work now permitted. By this we shall render a real service to the patient and place our department on a high standard. An appointment in a hospital having such standards would be considered an advancement and an honor.

4. Certain economic factors require study for correction of abuses now apparent to all doing clinical work. We must stop fault-finding as our only defense, develop a plan that can be made workable, revise it as its weaknesses become apparent—but in Heaven's name let us do something besides talk. An active public relations committee, in which our specialty will be represented, should be part of all hospital work. The public should be informed in an intelligent way of what is being done by the profession without any recompense. This would counteract the present freely expressed public opinion that we are being paid by public funds, which a large majority of our citizens still believe to be the case.

Discussion

Dr. Albert M. Rooker, *Niagara Falls, New York*—Dr. Sulzman is to be congratulated upon the thoroughness with which he has gone into the subject—so much so that there is little left to discuss. In our city, the hospitals come under his Class 2—i.e., general hospitals with ward and room privileges and separate nose and throat operating rooms. Fortunately, we have no organized clinics or outpatient departments, though we do have cases referred by city welfare physicians for operation.

Prior to October, 1940, neither of our hospitals, each of which has a bed capacity of 200, had a closed staff—i.e., they were open hospitals and anyone could do anything his conscience would permit. But this utopia (for physicians and surgeons) has come to an end, and we are now in the throes of organization—closing the staff. The problems are many and varied, as you can im-

agine when I say that we have eighty-eight physicians in the city and probably eighty of them aspire to be surgeons. Who or what group is to set itself up as a body to say who shall do this and who shall do that?

Everyone took out tonsils and adenoids; shall we specialists say where the line shall be drawn? Well, it was tried, and now some senior major surgeons who, themselves, never take out tonsils, stand by while associates do the operating. You who have always had a closed staff cannot appreciate the difficulties we are encountering.

I agree with Dr. Sulzman that standards should be set, and they are being established by the boards, colleges, etc. But that does not get them on a working basis in a situation such as we have in our city. Then, too, there is the chance for personal animosities to be injected into the situation, as they have been with us, so that we have a real problem, I can assure you, and one that will probably take a long time to solve. It would seem as though the public would become aware of such methods, but they go sublimely on, with confidence in their fellow-man, especially if he is a physician. How can they learn otherwise?

With regard to x-ray, I cannot agree with Dr. Sulzman, since I have had wholehearted cooperation from our roentgenologists. My only complaint would be that they find so much that is not corroborated by clinical findings that one is sometimes unduly influenced in his surgical judgment.

I agree that too many of our nurses have had inadequate training in our specialty, but with the acute shortage of nurses at present (when all those that were graduated from a training school, however ancient, are being called into service), I cannot see how this can be corrected.

There are many other problems far from solution, but I do believe that a paper such as Dr. Sulzman's will start us thinking of these things. It is extremely timely and worth while.

Dr. Wm. J. Hicks, *Middletown, New York*—Dr. Sulzman has raised a very timely question in regard to modern medical practice. The relationship of the specialist to the general hospital and its personnel is one that is now in process of being evolved, because the so-called specialist is a comparatively recent arrival on the medical scene. At some time during the process of stabilization it will be necessary to define the term "specialist." Considerable discussion has already taken place, not only within the profession, but also in lay groups, and even in legislative circles, as to just what a specialist is.

When the Advisory Board for Medical Specialties was organized in 1933-1934, and officially recognized by the American Medical Association at the Milwaukee Meeting of 1933,¹ organized

¹ The Council on Medical Education and Hospitals of the American Medical Association has representation on the Advisory Board for Medical Specialties.

medicine took a long step toward defining the term specialist. This board issued its first directory last year, and it contains the names of over 14,000 specialists certified by the various American boards. This publication is available to professional and lay groups alike. Many of the national societies now require board certification for all candidates, and an increasing number of hospitals require board certification for advancement and full hospital privileges in a given specialty.

The practice of medicine in this country has become a cooperative enterprise, with first of all a definite division of labor into various specialties or fields of practice, and, second, a coordination of these various departments by suitable consultations. Although the coordination still leaves much to be desired, I think most of us will agree that it is improving, particularly in hospital practice. The general hospital today, with its pathologic conferences, tumor clinics, discussion of deaths, and general encouragement of consultations, is rapidly evolving the system of medical practice of the future. It constitutes group practice from the clinical side, if not in a financial sense. If this cooperation is to run smoothly, the division of labor must be definite, and the qualifications and rules for practice in the various departments must be more definite than in times past. It would seem important that just as clinical methods of procedure are brought up to date from time to time, so the method of classifying hospital personnel should be periodically re-examined. The general hospital discharges a moral responsibility as well as a legal one when it classifies its medical personnel, because hospital rating is frequently used as a yardstick.

Dr. Sulzman's paper presents some very familiar problems, and this would seem a proper occasion for an exchange of personal experience and viewpoint.

The Horton Memorial Hospital is a 100-bed Class A hospital in a city of 22,000 and its Eye, Ear, Nose, and Throat division is one of five departments. The head of each department constitutes, with the superintendent and one member of the Board of Directors, a Medical Council which meets at luncheon twice a month to discuss Hospital problems and recommend Hospital policy. Our patients are treated in the general wards, although we have our own operating and clinic rooms. About six years ago our department recommended that major privileges in the Eye, Ear, Nose, and Throat Department be given only to those men who limited their practice to this field and who had passed either the American Board of Ophthalmology or Board of

Otolaryngology examination. This recommendation was accepted by the Medical Council and the Board, and a list of procedures regarded as major surgery was filed with the superintendent. We have therefore what is locally called a closed department, and though a myringotomy classed as minor surgery and may be done by anyone having hospital privileges, a pharyngeal abscess or a tonsil removal is regarded as major otolaryngology and may be done only by one meeting the qualifications above outlined. First assistants at major operations are generally chosen from the department concerned, in order to conform with the general principle that a first assistant at any major operation should be competent to finish that operation in the event of emergency.

There are three members of the Attending Staff in the Eye, Ear, Nose, and Throat division in the Horton Memorial Hospital, and we try to have at least one representative present at the weekly tumor clinic and at the monthly pathologic conference. It is my impression that in our experience the principle of limitation of practice in the various departments has made it possible for us to make demands on each other in a friendly way, of course—that we might not otherwise feel justified in making. We were for instance requested in the Eye, Ear, Nose, and Throat Department, about six years ago, to establish a service in bronchoscopy, and the necessary graduate study was done to make this possible. Likewise, when sinus x-rays became the subject of our own criticism, our full-time and otherwise well-trained radiologist was asked to do some special work in sinus radiology which he did very willingly and with excellent results.

Regarding the relationship of the department to the Resident Staff, we are not a teaching hospital, of course, and do not attempt to teach major surgery, and so the intern does not operate in clinic tonsil cases. We do try to emphasize the importance of being able to diagnose an acute ear or a pathologic fundus. It is my feeling that the teaching of surgery in any specialty should be limited to those institutions equipped to teach first the fundamentals of anatomy and pathology. How else can we ever approach desirable standards?

This limited discussion is offered as an illustration of how we are attempting to solve, in a town of 22,000, some of the problems presented in Dr. Sulzman's paper. We still have far to go, though we believe we are on the right track. We hope to receive valuable suggestions from meetings such as this.



A PEDIATRICIAN LOOKS AT SCHOOL HEALTH EXAMINATIONS

A. CLEMENT SILVERMAN, M.D., Syracuse, New York

ALMOST every time I consider one of the deficiencies of the school health examination, I can think of a corresponding fault or deficiency when the private physician—be he general practitioner or pediatrician—makes a periodic examination. Endeavoring to be fair and objective, I begin to see the need for a consideration of the basic principles and the inherent weaknesses of the system.

In the school health program in New York State, the health examination is now the central element. The law requires an annual examination of every school child, and instructions to this end have been carefully drawn up.¹ It is not unfair to say that until quite recently neither educators nor physicians had formulated a "philosophy" or guiding principles of school health work. The manual of instructions of the New York State Education Department contains everything to be desired, but it still fails to deal with the problem realistically. It speaks of continuous health supervision, of the key position of the teacher, of conferences between the teacher, school nurse, and school physician after observation of the pupils, but it does not consider how all this can be done while retaining the principle of compulsory annual health examination of every pupil, and neither has the education department given impetus or leadership to in-service training of teachers, nurses, physicians, and administrators to effectuate the objectives of the modern school health program.

Method of School Health Examination

The general method of the school examination is largely that of medical diagnosis. Whether we examine a sick child or one who is well, the method is essentially the same; if anything, it may at times be necessary to take more time with a well child than with a sick one. The examination, whether in school or in the doctor's office, makes use of physical methods chiefly. Nor are these to be despised. We need only think of the examination of immigrants in years gone by, when inspection alone was depended upon to sift out

undesirables. It surely is not necessary to make use of all possible diagnostic facilities when a patient presents himself. Neither is it necessary to overemphasize laboratory tests. There is no doubt that undue emphasis has been put on instrumental examination. Patients so often show more willingness to pay for x-rays and other special tests than for the skill necessary to arrive at a diagnosis. It is in line with the disparity between the fee paid the medical man for making a diagnosis of appendicitis and the surgeon who operates for it.

Essential to any examination is, of course, a careful history. Again, in the examination of the healthy child, it may be necessary to take more time to go into his hereditary and family background, his growth and development, his living conditions, his habits and behavior, his activities, food, and sleep. It cannot be denied that upon occasion a careful history will tell us as much or more than certain laboratory tests that we have come to depend upon. Similarly, we often gain more from mere inspection, provided it is backed up by the discernment of experience, than from elaborate but ill-considered examinations or tests.

Nevertheless, it must not be forgotten that there are a great many conditions that a physical examination will fail to reveal. A number of such conditions will occur to us readily: diabetes, epilepsy, kidney conditions, tuberculosis, syphilis, allergic conditions, milder types of endocrine disturbance, or milder forms of mental defect. In recent years, it has become an accepted fact that physical examination methods are inadequate for discovering early pulmonary tuberculosis or accurately determining its extent.

Perhaps the greatest difference between school examinations and those made by the pediatrician is that the latter usually has or obtains a careful background history, and inherently can and does make use of additional methods of investigation, whether by simple or complex laboratory tests, consultation, or further observation. Inherently, he takes the responsibility for following up the child and the parents expect him to assume that responsibility. At the school examination, the parent is rarely present, the child is at best but

¹Read at the Annual Meeting of the New York State Association of School Physicians, Saratoga, New York, June 23, 1941.

From the Department of Pediatrics, College of Medicine, Syracuse University.

partially stripped, and the examination is at best not even potentially complete.

Literature dealing with school medical service has had to give attention to the time devoted to each examination, and comparisons are often made between the time given by the school physician and that given by the private physician, usually to the disparagement of the former. On the other hand, the private practitioner often neglects to test vision and hearing, whereas these are specially dealt with by school physicians, and, though frequently these examinations may be made by nurses or teachers, they constitute part of the school health record. As in many other situations, it is not so much a matter of the time given, though a certain minimum time cannot be lessened, but rather how the time is utilized and to what extent certain elements are dealt with. Those who plead for more time or better examinations fail to appreciate that even with additional time the school examination is bound to be limited in scope. By its very manner, it cannot possibly serve to give a complete appraisal of the child and therefore cannot possibly take the place of good pediatric supervision. Nevertheless, if well performed, the school examination can, within its limitations, serve a very useful purpose when its limited objectives are recognized.

Objectives

The school health examination has a number of purposes and objectives: (1) to serve as a periodic check-up to determine the health status of the individual child; (2) to call attention to defects that might interfere with the child's education; and (3) to serve as a means to health education. These three objectives are obviously interrelated and logically should not be thought of as separate. It should be recalled, however, that school health service had its inception chiefly as a means for controlling communicable diseases. Later, mere inspection of school children gave place to some sort of examination, and still later the search for physical defects was emphasized. More recently, the educational value of the school examination has been stressed.^{2,3,4,5,6,7,8} For the two latter objectives, the importance of the attendance of parents is being strongly emphasized.* Let

* Since this paper was given, there has been published *School Health Services: A Study of the Program Developed by the Health Department in Six Tennessee Counties*, by W. Frank Walker and Caroline R. Randolph, New York, Commonwealth Fund, 1941, in which the role of the presence of parents at school examinations was studied.

us now consider to what extent these objectives are fulfilled.

School Health Examination as Periodic Check-up

There has been a tendency on the part of some to look upon periodic examinations as "the instrument of a hygienic millennium"; many regard it as at least "one of the most powerful instruments of preventive medicine."³ No doubt an occasional individual looks upon a periodic examination almost as a guarantee of good health until the next time. A great many must believe that, should any evidence of disease be discovered, it would certainly be possible to put into action the measures for correction. It is unfortunate that such notions are held too frequently by intelligent people. It is necessary to have an understanding of the limitations of a given procedure. It is perhaps natural enough when disease is encountered in its advanced stages to look back and speculate upon what might have been done toward an earlier diagnosis and earlier treatment; but on the other hand how frequently are we obliged to say that had we known all that we know now we could not have changed things. It is essential to have an appreciation of the human constitution and the hereditary factors involved. There are tendencies in individuals that may be entirely beyond our control. We may be helpful at times in showing people how to manage their lives more intelligently or how better to adjust themselves to their handicaps. Occasionally, too, the periodic health examination may reveal the early features of a remediable condition. It should not be necessary, however, to intimate unwarranted prospects of benefit to make its value apparent.^{9,10}

It is fair to say that the periodic examination tends to measure the health status of the individual at the time of the examination. In the case of a child it gives an appraisal of his condition; another check-up at a subsequent time, after a suitable interval, can give us a measure of his progress or development. I wish I could take the time to speak of Wetzel's work in this connection.¹¹ The periodic examination further provides an opportunity to talk over the habits and behavior of the individual, to investigate symptoms or signs that might have been noted recently or since the last examination, and to elicit knowledge of influences that might be having a deleterious effect.

About one school child in twenty gets ex-

A PEDIATRICIAN LOOKS AT SCHOOL HEALTH EXAMINATIONS

A. CLEMENT SILVERMAN, M.D., Syracuse, New York

ALMOST every time I consider one of the deficiencies of the school health examination, I can think of a corresponding fault or deficiency when the private physician—be he general practitioner or pediatrician—makes a periodic examination. Endeavoring to be fair and objective, I begin to see the need for a consideration of the basic principles and the inherent weaknesses of the system.

In the school health program in New York State, the health examination is now the central element. The law requires an annual examination of every school child, and instructions to this end have been carefully drawn up.¹ It is not unfair to say that until quite recently neither educators nor physicians had formulated a "philosophy" or guiding principles of school health work. The manual of instructions of the New York State Education Department contains everything to be desired, but it still fails to deal with the problem realistically. It speaks of continuous health supervision, of the key position of the teacher, of conferences between the teacher, school nurse, and school physician after observation of the pupils, but it does not consider how all this can be done while retaining the principle of compulsory annual health examination of every pupil, and neither has the education department given impetus or leadership to in-service training of teachers, nurses, physicians, and administrators to effectuate the objectives of the modern school health program.

Method of School Health Examination

The general method of the school examination is largely that of medical diagnosis. Whether we examine a sick child or one who is well, the method is essentially the same; if anything, it may at times be necessary to take more time with a well child than with a sick one. The examination, whether in school or in the doctor's office, makes use of physical methods chiefly. Nor are these to be despised. We need only think of the examination of immigrants in years gone by, when inspection alone was depended upon to sift out

undesirables. It surely is not necessary to make use of all possible diagnostic facilities when a patient presents himself. Neither is it necessary to overemphasize laboratory tests. There is no doubt that undue emphasis has been put on instrumental examination. Patients so often show more willingness to pay for x-rays and other special tests than for the skill necessary to arrive at a diagnosis. It is in line with the disparity between the fee paid the medical man for making a diagnosis of appendicitis and the surgeon who operates for it.

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tended to prior to the child's admission to school.

Obviously, no such program can be expected under present conditions from the school health service. The latter can hardly be expected to cover the preschool period. Proper supervision of the school child would still require a tremendously increased personnel with better preparation and a much greater budget than can now be considered. From a practical standpoint, however, a good deal of the job could well be passed on to private practitioners. It should be clear that the purpose here is not to make work for private physicians but rather to give the better type of supervision to those who can afford it and lighten the burden on the school health staff. The objection to the school examination as the central requirement is that it produces a great deal of time-consuming work without resulting benefit. If a considerable number of children could have their periodic examination outside of school, it would save the time of the school staff for those children who perforce must get their medical supervision from the school health service. If the school examinations were not emphasized, it would be possible to develop the idea that the school physician is responsible for general supervision of all school children during the time they are in school. The teacher, school nurse, and school physician could form a group whose job it would be to know as much as possible about each child and to call attention to those requiring special study. There is no reason why a child under the care of a private physician should not be under the observation of this group and their report sent on to the parents for the attention of the child's physician. In the case of a child that does not have his own physician, arrangements could be made for reference to clinics that would carry on the proper supervision with the cooperation of the school health personnel. Much more could then be expected on the educational side of the health service. Parents could be brought together in groups and the importance of various phases of school health pointed out to them and their interest en-

listed. They would know then that the health examination is as good as it can be made, but that it is at best a limited examination which does not necessarily cover all the needs, and that further study and attention may well be required.

Summary

The requirement of an examination of every school child each year has tended to defeat the purpose for which it is ordered. As done at the present time, it does not appear to serve as a periodic examination. It has not taken care sufficiently well of finding and correcting defects, and it appears to fail as an educational procedure. It would appear that the substitution of supervision of the school child as a cooperative effort on the part of the school teacher, nurse, and physician would serve the purpose better. The stimulation of examination and supervision by the child's own physician, in so far as that is feasible, would tend to relieve the burden on the school health personnel.

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Doctor making ward rounds: "Gentlemen, notice the enormous chest on this man." To the patient, "Do you play a wind instrument?"

Patient: "Yes, I do."

Doctor: "Ah, I was sure of it. Prolonged

blowing on a wind instrument is always responsible for such chest development. What instrument do you play?"

Patient: "The accordion, sir."

—III. Med. J.

amined for school by his own physician or pediatrician. The objectives of the periodic examination are not fulfilled in the school health examination; and if time were taken to do so, it would be impossible for the personnel to give such service to each school child annually.

Finding and Correction of Defects

This phase of school health work probably needs the least discussion, because so much has been written on this subject.^{12,13} We might briefly recapitulate, starting out with what appears to be a self-evident truth, that physical defects must tend to handicap the child's schooling. Defects of vision and hearing come first to mind, and then handicaps of nutrition, teeth, tonsils, and the relatively infrequent cardiac trouble. In order of frequency, dental defect ranks first, tonsils second, nutrition third, and visual defect fourth. The objective is not to make a statistical analysis of all deviations from the normal, but to seek out those bodily defects that might have a relation to scholarship. For some of these, there are objective criteria, as for dental, visual, or auditory defects, but for conditions such as those of tonsils or nutrition, the criteria are largely subjective, and the personal equation plays a large part in the evaluation. There is hardly any need for referring to the New York study on tonsils.¹³ It should suffice to recall that in numerous instances a condition is recorded as a defect at one examination and as normal in the next examination. On the one hand, dental defects are so frequent that little purpose is served to repeat the examination; on the other hand, cardiac defects are so uncommon that it would seem uneconomical to continue routine examinations of all children.

Perhaps the most disturbing finding on this score is that whatever relationship there is between bodily perfection and scholarship is at most an indirect one. The anticipated results from correcting physical defects have generally not materialized. Even in so precise a field as visual defect, it has been shown that correction of such defects has not led to progress in reading.¹⁴

There is no intention here to disparage the large amount of good work done in finding and correcting defects. Certain fields of great promise have barely been tilled. The inference that it is desired to call attention to is that certain defects could probably be found almost as readily by screening devices that would consume less time. Furthermore,

greater results could probably be achieved if more attention were given to the children with the more serious defects, instead of spreading the program equally thinly over all school children.

School Health Examination as Educational Procedure

This objective has received more emphasis in recent years, and its purpose is obviously to tie in the school health work with the educational process. It is a safe assumption that almost any human experience is more or less an educational experience. Health teaching, especially with the younger children, is not a matter of didactic instruction, but of the utilization of classroom experiences in furthering health concepts. Obviously, an inspection in school or a physical examination has its educational aspects. It is further emphasized that, with this objective in mind, the parent should be present at the time of the examination, so that both parent and child may participate in the educational experience.

It would seem appropriate to raise a question at this point about the educational value of an inadequate examination. If the present method of school examination leaves much to be desired, if it has at best only a limited scope, might not the educational effect be quite different from what it is desired to be? The contrast between a good pediatric examination and one at school might prove rather "devastating." At the present time, a pernicious by-effect of the school health program is the notion that the school examination suffices to reveal any deviation from the normal, and that when no notice is received it is tantamount to certification of good health. No romantic notions of educational values should be allowed to becloud realities.

Discussion

It might be considered that we have been offering destructive criticism chiefly, that we have been finding fault with the school health procedures, though disclaiming such intention in the beginning. My thesis is that the objectives claimed for school health examinations are not fulfilled. The ideal that is desirable is continuing health supervision of the child from birth and through school, such as a well-trained, conscientious pediatrician might be prepared to give—not alone in the physical field, but also in relation to habits, behavior, and social adjustment. Were such a program feasible, it is very likely that correctable defects would in many instances have been at-

bed between hydrostatic pressure, which tends to force fluid out, and colloid osmotic pressure, which tends to draw fluid in from the tissues. Fluid passes from the arterial side of the capillary bed to the tissue inter-spaces because of a pressure differential favoring filtration by hydrostatic pressure. At the venous end of the capillary bed, hydrostatic pressure has fallen so that now the pressure differential favors the withdrawal of fluid from the tissue interspaces by colloid osmotic pressure. An equal exchange of fluid, first from the capillaries into the interstitial spaces and then back from the tissues into the capillaries, maintains the equilibrium of fluid and prevents both the accumulation of fluid in the tissues and tissue desiccation.

There are many means by which this equilibrium can be upset and edema produced. Any disturbance which produces venous engorgement increases hydrostatic pressure at the venous side of the capillary bed. Thus the differential between colloid osmotic and hydrostatic pressure is changed in a direction which tends to prevent the removal of fluid from the intercellular spaces.

When plasma protein (which accounts for the greater part of osmotic pressure of the plasma) is lost in amounts great enough to produce an appreciable fall in colloid osmotic pressure, insufficient restraint is exerted against the hydrostatic pressure. Thus, more fluid is filtered out of the capillaries at the arterial side and less is drawn back at the venous side of the capillary bed.

Damage to capillary endothelium increases its permeability and not only makes filtration by hydrostatic pressure far easier but also reduces the effective osmotic pressure of the plasma protein and diminishes the amount of fluid drawn back into the capillaries.

All three mechanisms may obtain in the development of cardiac edema. In cardiac failure there is an increase of venous pressure. The relative anoxemia which results from congestive failure may damage capillary endothelium. The malnutrition so often found in chronic heart failure may finally result in a low level of plasma protein.

Theoretically, diuresis may be produced in the presence of edema by mechanisms which are antagonistic to those which produced the edema. Thus, in edema produced by increased venous pressure, reduction of venous pressure will produce diuresis; where low plasma protein is the cause of edema, a transfusion, infusion of plasma or acacia, or proper diet may produce diuresis. The repair of

damaged capillary endothelium as a means of relieving edema remains entirely a theoretical consideration, however, since for this purpose we have no drug, except possibly oxygen, for the capillary damage produced by anoxia.

But the relief of edema may also be accomplished by means other than those which are directly antagonistic to the forces that produced the edema. Fixed base in the body binds water; thus, any drug that will mobilize sodium should also mobilize water and make it available for the kidneys and produce diuresis.

Finally, by a direct action on the kidneys it is theoretically possible to increase the rate of urine formation: (1) by an action on the glomeruli, increasing the amount of glomerular filtrate; (2) by an action on or in the renal tubule, decreasing tubular reabsorption of water.

So we have renal and extrarenal theoretical mechanisms for the relief of edema by the production of diuresis, and there are drugs available for some of those mentioned, except possibly for the repair of damaged endothelium and the increase of the glomerular filtrate.

The drug which statistically produces diuresis most often is probably digitalis. Digitalis produces this effect only in the presence of edema of cardiac origin. By increasing cardiac efficiency, digitalis relieves the mechanical factors which produced the edema. Venous engorgement and hydrostatic pressure at the venous end of the capillary bed are reduced, permitting the colloid osmotic tension to draw the edema fluid from the tissue.

Of the group of so-called "nonthreshold" diuretics, urea is the most important member. These substances are filtered by the glomeruli but reabsorbed only to a small extent or not at all by the tubules. A sufficient concentration of urea in the glomerular filtrate will therefore by its osmotic tension retain fluid and increase the amount of urine eliminated.

Then there is the group of "acid-forming" diuretics, of which ammonium chloride is perhaps the most popular member. As with any ammonium salt, in the body the ammonium is converted into urea, leaving free acid. The acid mobilizes tissue base, making tissue fluid available for elimination by the kidneys.

The xanthine diuretics form an important group of drugs. The mechanism of their action is still being debated. It has been stated by different observers that the xanthine diuretics act by increasing the number of functioning glomeruli, by increasing intra-

Therapeutics

CONFERENCES ON THERAPY

THESE are stenographic reports, slightly edited, of conferences by the members of the Departments of Pharmacology and of Medicine of Cornell University Medical College and the New York Hospital, with collaboration of other departments and institutions. The questions and discussions involve participation by members of the staff of the College and Hospital, students, and visitors. The next report will appear in the July 1 issue and will concern "Treatment of Ocular Syphilis."

The Use of Diuretics

DR. HARRY GOLD: The conference today is on the subject of diuretics.

We might find it more satisfactory, perhaps, to confine our discussions to the use of diuretics in the treatment of heart failure, although if anyone has some burning questions about the use of diuretics in conditions other than heart failure, we might be able to consider those as well.

The diuretics as an effective group of drugs represent a development of very recent years. I have put here a list of agents which I just learned alarmed Dr. Modell, who is going to discuss the pharmacology of the diuretics. They are:

Caffeine	Lithium
Squill	Turpentine
Cantharides	Uva ursi
Buchu	Cubebs

These appear under the heading "Diuretics" in a textbook which was published as late as 1925. It is called *Practical Therapeutics*.

When that was all we knew about diuretics, the patient with heart failure and congestion—let us take a typical case—the patient with luetic heart disease and aortic insufficiency, with edema and ascites, who failed to respond to digitalis, came into the hospital, and after receiving some of these choice remedies, had the fluid removed by means of paracentesis.

This same textbook—and I think it is fairly representative of a practice which prevailed not very long ago—in giving an account of how to treat dropsy of heart failure, states in substance the following: Give a dose of some drastic purgative, such as elaterin, $\frac{1}{20}$ grain by mouth, or compound jalap powder, or compound extract of colocynth. A good deal of emphasis is placed on the importance of purgatives in the treatment of cardiac dropsy. Digitalis is prescribed, and it is advised to have the prescription for powdered digitalis fortified with some powdered squill. The third item mentioned in this outline of treat-

ment is 1 cc. of pituitrin by mouth or by subcutaneous injection two or three times a day. Then it states: "The chief means of relief in cases of ascites is tapping."

That is the picture we had about fifteen or possibly twenty years ago. The patient with congestive heart failure, who no longer responded to digitalis, was doomed.

It is not so now. More than half of the patients with advanced congestive heart failure, in whom digitalis no longer is effective, can be relieved of ascites, hydrothorax, edema, and subjective symptoms in a dramatic fashion by the use of this relatively new group of diuretic agents. Some of them are not new but they have been put to use in much larger doses.

These agents are: (1) organic mercurials, (2) acid-forming diuretics, (3) xanthines, (4) urea, (5) bismuth sodium tartrate.

The xanthines have been in use as diuretics for over fifty years, but they were never very effective until the fear that they might produce dangerous renal irritation proved to be unfounded. The doses were then increased from $1\frac{1}{2}$ grains, once or twice a day, to 5, and even 10 grains, two or three times a day.

How do these newer diuretics act? Something of the pharmacologic background is to be given by Dr. Modell.

DR. WALTER MODELL: If we define as diuretics those substances which increase the rate of urine formation, we include some drugs which act only under the special circumstances found in particular diseases. It is therefore necessary in discussing the pharmacology of diuretics to consider the conditions under which the several diuretics will operate, and, further, to consider the various mechanisms of the production of edema, the specific symptom for which diuretics are used.

Fluid exchange between the capillaries and the interstitial spaces is normally maintained at equilibrium by a balance in the capillary

be kept free of the symptoms and signs of heart failure by the continued use of diuretics, whereas if he goes without them, they soon recur, regardless of other medication.

Finally, I think it should be made clear that treatment with diuretics is effective regardless of the etiology of the heart disease, of the age of the patient, and of the rhythm of the heart.

Unfortunately, in the treatment of ascites due to portal obstruction, the potent mercurial diuretics given intravenously are only occasionally useful. In a patient with massive ascites due to cirrhosis of the liver, it is almost impossible to remove the fluid completely by the use of mercurial diuretics alone. On the other hand, it is sometimes possible, after the ascites has been removed by abdominal paracentesis, to delay the recurrence of ascites and decrease the frequency of paracenteses by administering mercurials twice a week. Used in this fashion, a mercurial diuretic may be of real value in the treatment of portal obstruction.

The third class of patients in whom we use diuretics with good effect are those who suffer from the nephrotic stage of chronic glomerular nephritis with generalized anasarca. Here it should be emphasized that under no circumstances do we use these drugs if there is any evidence of active glomerular nephritis. The type of case in whom we most often use diuretics is one who is incapacitated by massive generalized anasarca resulting from hypoproteinemia, who shows no appreciable number of red blood cells in the urine and who has good renal function. To such a patient, urea or a mercurial may be given, often resulting in effective diuresis and marked reduction of edema. Here, too, the result is by no means so dramatic or so dependable as in the case of heart failure. When we use a mercurial in these patients, we follow them carefully, examining the urine and checking renal function frequently to determine whether the kidneys are being damaged. When we use urea as a diuretic, we check the blood urea nitrogen every two or three days to be sure that it is not being retained in the blood.

We have found that when these precautions are observed, the drugs may be used with safety, and that they are often valuable adjuncts to treatment. There is very good clinical evidence that patients with nephrosis may be given diuretics, including the mercurials, over a long period of time without any deleterious effect on the kidneys.

Urea appears to be a very safe drug to use in most patients, and we seldom see any very

marked accumulation of it in the blood stream as a consequence of using it, even in patients who exhibit some impairment of renal function.

A word about different drugs that we use as diuretics: First of all, there are the organic mercurial drugs such as salyrgan, mercupurin, and salyrgan with theophylline. These are the most potent diuretics we have. They are, as a rule, given intravenously, although intramuscular injections also induce diuresis. When a patient is given one of these drugs for the first time, it is wise to give an initial test dose of 0.5 cc. and then, if there is no untoward effect, to give the full dose of 2 cc. on the following day. We usually administer 2-cc. doses at intervals of two days and continue the injections either until diuresis fails to occur, indicating that the patient is free of edema fluid, or for some reason or other the drug is no longer effective in producing diuresis. Some patients who have received several hundred injections of the drug over a period of years still continue to respond very well and do not manifest any serious toxic effects.

In the twenty-four-hour period following the injection of 2 cc. of mercupurin or salyrgan, usually about 2,000 cc. of urine is voided. Occasionally, one sees patients who pass as much as 7,000 or 8,000 cc. of urine in twenty-four hours after the injection. In general, it appears that the degree of the diuresis is in a measure related to the amount of fluid that has accumulated in the body. A patient with congestive heart failure who has massive pleural effusion, ascites and a swollen liver, and edema of the extremities, may pass 4,000 or 5,000 cc. of urine following the first injection, and then as his symptoms and signs become less and less severe, the diuresis, which follows each injection, becomes progressively less.

One of the disadvantages of the mercurial diuretics is that they are effective only when given parenterally. Consequently, a patient that requires them must see the doctor for every injection. An attempt has been made to get away from this by using the drugs in the form of rectal suppositories. In that form they do provoke diuresis, but the effect is not so striking as when the drug is given parenterally. Moreover, they often produce rectal irritation, causing the patient such pain that he will no longer use them.

Toxic effects from the mercurial diuretics occur rather infrequently and are seldom very severe. A small percentage of patients be-

capsular filtration pressure in the glomeruli, by increasing glomerular filterability, by increasing renal blood flow, by decreasing tubular absorption, and by an extrarenal action that produces plasma dilution. It is definite, however, that the xanthine diuretics do have, to some extent, direct renal action. Diuresis can be induced by the xanthines in isolated kidneys. The importance of the circulatory action of the xanthine group in the mechanism of diuresis is not great, since diuresis appears before the circulatory action is in evidence and persists long after it has disappeared. It is probable that the xanthines exert a direct effect on the tubules to prevent fluid reabsorption.

The mercurial diuretics are about the most potent diuretics we have. Here there is less question about their mode of action. A direct renal action has been demonstrated on isolated kidneys, and *in vivo* by the injection of the diuretic into one renal artery, producing one-sided diuresis.

Both the mercurials and the xanthines increase the amount of chlorides and base excreted. The urinary chloride excreted is increased not only in total amount but also in actual concentration in the urine. Because of this, the production of massive or prolonged diuresis may drive the blood chlorides to low levels. It has been demonstrated that a normal or nearly normal blood chloride level is required for good results from these drugs. In patients who have ceased to respond after repeated administration of these drugs, blood chloride levels have been found to be exceedingly low in many instances. After the chloride levels of the blood were restored to normal, the diuretics again became effective.

In addition, some of the reactions such as nausea, dizziness, and weakness which have followed massive diuresis have been explained by the reduced level of blood chlorides and the loss of base. In some cases these symptoms may be easily relieved by the administration of salt.

The use of combinations of diuretics is very widely practiced. One very common combination is that of an "acid-forming" diuretic and a mercurial. It is an empirical observation that such a combination results in a synergism. In addition, the ammonium chloride supplies chlorides and prevents its depletion in the body.

It is common today to use a mixture of mercurial and xanthine diuretics—mercupurin or salyrgan-theophylline, rather than the

mercurial alone. It is well to remember that these mixtures contain only a small proportion of theophylline (3 to 5 per cent), whereas the amount of the mercurial is considerably greater. This mixture was introduced originally because it was thought that the combination of a xanthine (operating, as was believed, on the glomeruli) and a mercurial (acting on the tubule) would combine the best features of both. That this is what actually happens has not been proved.

DR. GOLD: Dr. Wheeler, will you discuss the clinical aspects of this problem?

DR. CHARLES H. WHEELER: The diuretic drugs are of use in three types of disease, the most important of which is congestive heart failure. They are far less dependable and effective in portal obstruction, with massive ascites such as occurs with cirrhosis of the liver; and the so-called nephrotic stage of chronic glomerular nephritis with generalized anasarca. Unfortunately, diuretics seem to be of little or no value in the treatment of exudates. For example, it is very unusual to see a good result from a diuretic drug in a patient suffering from tuberculous peritonitis with ascites, or in a patient who has a massive pleural effusion resulting from carcinomatosis of the pleura.

Patients who suffer from congestive heart failure are far and away the most favorable subjects for the use of diuretics. Yet it is surprising how many physicians neglect the diuretics. It is not uncommon to see patients with severe congestive heart failure who have been treated in very excellent fashion with digitalis, restriction of fluid, salt, and other measures, but who have been allowed to suffer for weeks and months from symptoms and signs that could have been completely relieved in a very short time by the use of diuretics.

A word should be said about the prophylactic use of diuretics in the treatment of congestive heart failure. They are often very useful in the treatment of patients who have symptoms of heart failure, such as severe dyspnea and orthopnea, or paroxysmal dyspnea, and in whom physical signs, such as rales at the lung bases or edema, have not yet appeared. In such patients treatment with diuretics will often bring about striking relief of symptoms and will sometimes greatly delay the appearance of the full-blown picture of congestive heart failure.

It is unwise, after relieving a patient with severe congestive heart failure of his symptoms and signs by the use of diuretics, to turn him loose and not to continue the use of these substances. Very often such a patient can

be kept free of the symptoms and signs of heart failure by the continued use of diuretics, whereas if he goes without them, they soon recur, regardless of other medication.

Finally, I think it should be made clear that treatment with diuretics is effective regardless of the etiology of the heart disease, of the age of the patient, and of the rhythm of the heart.

Unfortunately, in the treatment of ascites due to portal obstruction, the potent mercurial diuretics given intravenously are only occasionally useful. In a patient with massive ascites due to cirrhosis of the liver, it is almost impossible to remove the fluid completely by the use of mercurial diuretics alone. On the other hand, it is sometimes possible, after the ascites has been removed by abdominal paracentesis, to delay the recurrence of ascites and decrease the frequency of paracenteses by administering mercurials twice a week. Used in this fashion, a mercurial diuretic may be of real value in the treatment of portal obstruction.

The third class of patients in whom we use diuretics with good effect are those who suffer from the nephrotic stage of chronic glomerular nephritis with generalized anasarca. Here it should be emphasized that under no circumstances do we use these drugs if there is any evidence of active glomerular nephritis. The type of case in whom we most often use diuretics is one who is incapacitated by massive generalized anasarca resulting from hypoproteinemia, who shows no appreciable number of red blood cells in the urine and who has good renal function. To such a patient, urea or a mercurial may be given, often resulting in effective diuresis and marked reduction of edema. Here, too, the result is by no means so dramatic or so dependable as in the case of heart failure. When we use a mercurial in these patients, we follow them carefully, examining the urine and checking renal function frequently to determine whether the kidneys are being damaged. When we use urea as a diuretic, we check the blood urea nitrogen every two or three days to be sure that it is not being retained in the blood.

We have found that when these precautions are observed, the drugs may be used with safety, and that they are often valuable adjuncts to treatment. There is very good clinical evidence that patients with nephrosis may be given diuretics, including the mercurials, over a long period of time without any deleterious effect on the kidneys.

Urea appears to be a very safe drug to use in most patients, and we seldom see any very

marked accumulation of it in the blood stream as a consequence of using it, even in patients who exhibit some impairment of renal function.

A word about different drugs that we use as diuretics: First of all, there are the organic mercurial drugs such as salyrgan, mercupurin, and salyrgan with theophylline. These are the most potent diuretics we have. They are, as a rule, given intravenously, although intramuscular injections also induce diuresis. When a patient is given one of these drugs for the first time, it is wise to give an initial test dose of 0.5 cc. and then, if there is no untoward effect, to give the full dose of 2 cc. on the following day. We usually administer 2-cc. doses at intervals of two days and continue the injections either until diuresis fails to occur, indicating that the patient is free of edema fluid, or for some reason or other the drug is no longer effective in producing diuresis. Some patients who have received several hundred injections of the drug over a period of years still continue to respond very well and do not manifest any serious toxic effects.

In the twenty-four-hour period following the injection of 2 cc. of mercupurin or salyrgan, usually about 2,000 cc. of urine is voided. Occasionally, one sees patients who pass as much as 7,000 or 8,000 cc. of urine in twenty-four hours after the injection. In general, it appears that the degree of the diuresis is in a measure related to the amount of fluid that has accumulated in the body. A patient with congestive heart failure who has massive pleural effusion, ascites and a swollen liver, and edema of the extremities, may pass 4,000 or 5,000 cc. of urine following the first injection, and then as his symptoms and signs become less and less severe, the diuresis, which follows each injection, becomes progressively less.

One of the disadvantages of the mercurial diuretics is that they are effective only when given parenterally. Consequently, a patient that requires them must see the doctor for every injection. An attempt has been made to get away from this by using the drugs in the form of rectal suppositories. In that form they do provoke diuresis, but the effect is not so striking as when the drug is given parenterally. Moreover, they often produce rectal irritation, causing the patient such pain that he will no longer use them.

Toxic effects from the mercurial diuretics occur rather infrequently and are seldom very severe. A small percentage of patients be-

come nauseated and vomit after intravenous injections and a few have diarrhea, but rarely are these severe enough to contraindicate the use of the drug. All of the mercurial diuretics produce severe local pain if even small paravenous injections are made. Salyrgan may actually produce a slough under such circumstances, but mercupurin rarely does this. Similarly, salyrgan may produce a thrombosis of the vein into which it is repeatedly injected, but this also seldom occurs with mercupurin. For these reasons, mercupurin is perhaps to be preferred over salyrgan.

In addition to the mercurials, there are available the xanthine diuretics. Those used most commonly are aminophylline, various salts of theobromine, and theocalcin. Physicians vary greatly in their preference for one or another of these substances, although it is difficult to find any evidence that any one is superior. In this hospital, for some reason, we favor theocalcin, probably more on the basis of prejudice than on any real evidence. It is taken in divided doses, usually 1 or 1.5 Gm. four times a day by mouth. These drugs are, however, quite expensive, and a patient of small means often cannot afford them. Another disadvantage is that their effect varies greatly with different patients: some will respond most dramatically and pass 1,000 or 2,000 cc. of urine daily as long as the drug is taken, while others will not have any diuresis at all.

The toxic effects that follow the use of the xanthines are quite inconsequential. Nausea, occasionally with vomiting, is the reaction commonly encountered, and this is seldom severe enough to necessitate stopping the drug.

Finally, a word about urea: Urea, like the xanthines, is taken in divided doses. We usually prescribe 30 cc. of a 50 per cent solution of urea three times a day. It produces the same sort of moderate daily increase in the volume of urine that the xanthines do. Urea is a very good diuretic in the opinion of most people who have used it, and it often succeeds in patients in whom the xanthines have failed. Urea is very cheap, but an important disadvantage is its horrible taste. Some patients cannot take the solution. Attempts are made to disguise the taste, and many people find that grape juice is a particularly effective vehicle. Toxic effects from the administration of urea are unusual, but we have spoken previously of the necessity of following the blood urea nitrogen in order that the occa-

sional occurrence of marked retention of the drug may be avoided.

I agree with Dr. Modell about the use of these diuretics in combination. I think you would find, for example, that most of the patients with congestive heart failure being treated on the wards of this hospital are receiving at the same time daily doses of a xanthine diuretic such as theocalcin, injections of mercupurin every two or three days, and also daily doses of ammonium chloride. The latter is given not only because it has some diuretic effect, but also because in some way it seems to enhance the effect of the mercupurin or the other mercurial diuretics.

DR. GOLD: Well, you have heard a lot of statements about the diuretics. Would you like to take exception to anything that was said? Are there any questions?

DR. MCKEEN CATTELL: Dr. Gold, you have not said anything about the last item in the list of newer diuretics.

DR. WHEELER: Dr. Gold, I should like to ask you a question, if I may. It is stated in the literature that a patient with massive edema who has been digitalized and then receives a dose of a mercurial diuretic, as a result of which he may put out 5,000 or 6,000 cc. of urine, may redigitalize himself by mobilization of digitalis in the edema fluid. As a result he will develop symptoms and signs of digitalis intoxication following diuresis. Personally, I have never seen that nor heard of it in this hospital. I wonder what your views are.

DR. GOLD: There are then two questions: One is about the preparation, bismuth sodium tartrate. This was introduced as a diuretic way back in 1928, and the reports at that time were extremely favorable. A dose of 30 mg. of sodium tartrate of bismuth injected intramuscularly produced an effective diuresis in the patients that were then studied. The effect lasted with diminishing intensity for a period of four or five days. Some years after that another study was made on humans, in which the same general conclusion was reached—that sodium bismuth tartrate is very effective as a diuretic and sometimes causes diuresis when the organic mercurials have ceased to be effective. I understand the hospital in which this was first introduced, Leland Stanford, has used it extensively. Strange as it may seem, no one around here seems to have had any experience with it.

DR. WHEELER: So far as I know we have never used it here.

DR. GOLD: It is something we ought to look

into. It is apparently an effective diuretic.

With respect to digitalis poisoning after massive diuresis, there are a few studies in the literature suggesting that if a patient with marked ascites or hydrothorax and marked edema has been heavily digitalized, a copious diuresis after a mercurial will mobilize the digitalis glucoside which is stored up in this fluid and in that way redigitalize the patient. The evidence leaves something to be desired. I have never seen a case that I could be sure was due to that sort of change. We have all encountered patients who after a very vigorous diuresis develop symptoms—weakness, cramps in the muscles, prostration, and sometimes even nausea and vomiting. There are so many factors that might be responsible for these symptoms. The loss of large quantities of sodium base gives rise to prostration. Also, shift of the acid-base equilibrium toward the base side because of chloride loss may lead to symptoms of alkalosis, with nausea and vomiting.

DR. JANET TRAVELL: I once asked Dr. Eggleston about that and he said he never saw a case of redigitalization following profound diuresis.

DR. WHEELER: I should like to ask Dr. Modell whether there is any pharmacologic evidence indicating which of the xanthines is the most effective diuretic.

DR. MODELL: Of the xanthines, caffeine is least used because of the central stimulation produced by diuretic doses, but I think it is more of an individual and clinical than a pharmacologic problem to discover which of the xanthines would be most effective in a particular case.

DR. WHEELER: There is no evidence that aminophylline is a more effective diuretic than theobromine sodium salicylate?

DR. MODELL: I do not think there is any significant difference.

DR. GOLD: I do not think there is much evidence to justify a choice. It is a problem as old as the problem of dosage.

DR. WHEELER: Then it is impossible to make a rational choice?

DR. MODELL: Theocalcin is stated to produce less nausea.

DR. WHEELER: I think that nausea is just as common following theocalcin as following theobromine. On the other hand, since we use so much more of the theocalcin, it is hard to be sure.

DR. GOLD: That surprises me, for the general statement about theocalcin is that it produces less nausea and vomiting in effective

doses. That was one of the reasons why the manufacturers introduced it. At one time that idea was prevalent about these parts, but apparently that has changed with more experience in its use.

There is not much choice between theophylline and the double salts of theophylline, and theobromine and the double salts of theobromine. Each of these compounds was introduced with some statement regarding lesser irritant action on the gastrointestinal tract. I think Dr. Wheeler said that with the xanthines they are not troubled much by gastrointestinal symptoms.

DR. WHEELER: They occur, but they are not very severe as a rule. If they are severe, we discontinue the drug.

DR. GOLD: Let us hear whether you would agree with this statement: In the endeavor to produce effective diuresis with any of the xanthines, nausea and vomiting or other gastrointestinal symptoms are produced in about 50 or 60 per cent of the cases.

DR. WHEELER: I would say nausea in about 50 per cent of the cases, but not vomiting.

DR. GOLD: It is very difficult to give effective doses without irritating the gastrointestinal tract. These drugs irritate the gastrointestinal tract in animals too, and large doses given to dogs produce ulceration in the stomach and bowel.

DR. MODELL: I should like to mention that the organic mercurials are excreted almost quantitatively in the urine, and as long as there is good diuresis the excretion is fairly complete—80 to 90 per cent in twenty-four hours—but special caution must be taken when the organic mercurials do not produce diuresis. Then there may be retention of mercury in the body, and cumulation with repeated doses.

DR. CATTELL: The same thing applies to other diuretics.

DR. MODELL: Yes, but the feeling is strong about mercurials because the metal itself is so toxic. If the "acid-forming" diuretics are not excreted because of renal insufficiency, eventually the pH of the blood is reduced, and acidemia instead of acid urine is produced.

DR. GOLD: With regard to urea, it has been shown that there are patients who do not excrete urea very quickly, and after doses of the order of 2 or 3 ounces of urea a day the blood urea levels can go up to 250 milligrams per cent; and when they do the patients sometimes become very drowsy. It is not dangerous, but it is an important symptom,

Urea produces in animals and in man symptoms similar to those produced by the barbiturates, in which urea is one of the basic groupings.

DR. TRAVELL: If you give 2 cc. of organic mercurials in the initial dose, do you not sometimes encounter toxic reactions due to idiosyncrasies to these substances?

DR. GOLD: That dose seems rather high.

DR. WHEELER: For four or five years and to hundreds of patients we have given an initial dose of 1 cc. just to be sure they would not get into trouble, but we never saw patients who reacted unfavorably to that dose, and so consequently the tendency now is to give a dose of 2 cc. initially.

DR. GOLD: I would like to warn against it. There are individuals who pass 5 or 6 liters of urine a day after 0.5 cc. A large dose would result in more massive diureses, which could hardly take place without undue strain and distressing symptoms. Of course, a great many patients require larger doses, but one ought to test their tolerance with smaller ones.

Let me tell you about one patient who had an idiosyncrasy. The patient received 1 cc. of mercupurin and nearly died. She developed symptoms of shock within a few hours. Her temperature rose to 103 F. She vomited. She spent the next two weeks recovering from an ulcerative stomatitis. A dose of 1 cc. did a great deal of damage. We then gave doses of the order of 0.05 cc. Even these small doses produced sore gums. We wondered whether this response applied to other mercurial diuretics. Subsequently, we discovered that she could tolerate a dose of 2 cc. of salyrgan without any trouble. Such cases are rare, but they occur.

DR. MODELL: I wonder whether Dr. Wheeler has noticed any difference between the effects of salyrgan and salyrgan-theophylline?

DR. WHEELER: I have not used enough of salyrgan-theophylline to have any opinion about it.

DR. MODELL: How do you feel about the usefulness of the small amount of theophylline—intravenously—which these mixtures contain?

DR. GOLD: The amount of theophylline in any of these compounds is so very small. In the 1-cc. solution of mercupurin, it is only 35 mg. Whatever the reason for the introduction of the theophylline into the compound, it is a fact that the xanthines reduce the local irritant effect of mercury. Mix some bi-

chloride of mercury with a xanthine and inject it subcutaneously; the local effect will be negligible, whereas the same amount of bi-chloride of mercury injected subcutaneously without the xanthine will produce pronounced irritation. The diminished irritant action may be related to the fact, shown by DeGraff and his coworkers recently, that the xanthine promotes the absorption of the mercury from the site of injection.

There is a general trend now to put up organic mercurials in combination with the xanthine, even for intravenous injection. If any of the material is spilled into the subcutaneous tissues, all that results, instead of a slough, is a sensation of pinching, which lasts an hour or two, and disappears without any untoward effects.

STUDENT: If one fails to induce a diuresis with the first few doses of an organic mercurial, how long should one continue to give it?

DR. GOLD: Would you like to answer that, Dr. Wheeler?

DR. WHEELER: There is an important point that I should like to make in this connection. We occasionally do see patients who come into the hospital in severe congestive heart failure and who fail to show diuresis following injections of the mercurial diuretics given during the first few days after admission, who, after several days of rest and other forms of treatment, respond with a marked diuresis to a dose of a mercurial. Now to answer the question more specifically, I should think that if you have given two injections to a patient who was not in severe congestive failure and had observed no diuresis from either, there would be little likelihood that any further doses would be effective, and the further use of the mercurials should be attended with caution.

STUDENT: How rapidly would you say it is safe to remove a massive anasarca from the patient by the use of diuretics?

DR. WHEELER: We remove it as rapidly as possible with theocalcin, ammonium chloride, and mercupurin all at the same time, in addition to whatever other medication, such as digitalis, is being given. As Dr. Gold says, one occasionally sees untoward effects. In addition, many patients may be considerably fatigued by the passage of 6,000 or 7,000 cc. of urine in one day. However, it is our feeling that this may be disregarded when there is urgent need of relieving severe failure. There are a number of reasons why it appears important to reduce the degree of severe cardiac

decompensation as rapidly as possible. For example, a patient with severe passive congestion of the lungs is particularly susceptible to bronchopneumonia, and the risk of this serious complication may be lessened by a rapid reduction in the degree of congestion.

DR. GOLD: I am afraid we have time only for a summary by Dr. Modell.

DR. MODELL: I think that you summed up for us in your introduction, Dr. Gold.

When effective diuretics were added to the list of useful drugs, the lives of many cardiacs who no longer were being benefited by digitalis were prolonged and made tolerable. This is not to be underestimated since, as has been pointed out, patients may respond to hundreds of doses of effective diuretics given regularly over a period of many years. Unfortunately, however, only the cardiac patient can depend on this type of relief.

The choice of a particular diuretic depends on how urgent the need for relief is, whether renal damage is present, whether the patient can conveniently appear at the doctor's office for frequent injections, whether he can bear

the taste of urea, and whether in him the xanthines produce gastric distress.

The mercurials are dependable and, especially in combination with an "acid-forming" diuretic, may induce profound diuresis and dramatic relief of congestive heart failure. On the other hand, the mercurials should be used with caution since, aside from the danger of the mercury, profound diuresis, itself, may cause unpleasant symptoms. There may be a tendency in medical circles today to use appreciably larger doses of the mercurials than are actually needed to induce an adequate flow of urine.

The xanthine diuretics, although quite effective when administered orally, unfortunately produce gastric distress in so many patients that a relatively large proportion refuse to take them; nevertheless, they should be tried.

Urea is still one of our most effective diuretics, and despite its decidedly unpleasant taste, which is its only real disadvantage, it should be used much more widely. It is perhaps the safest of the diuretics.

PSYCHOANALYST ON STAGE EARNS DOCTORS' PRAISE

Probably the most unusual collection of fan letters ever received by an actor is owned by Donald Randolph, the man who has been psychoanalyzing Gertrude Lawrence for more than a year in *Lady in the Dark*. The value of this collection, according to Randolph, is to be measured not by volume but rather by its content and authors. They are letters of praise, criticism, or analysis of Randolph's performance from many of the seventy accredited psychoanalysts practicing in New York City.

As Dr. Brooks, the psychiatrist to whom Miss Lawrence, as Liza Elliott, unburdens her soul, Randolph is the first actor to portray a psychoanalyst at work. Never having been psychoanalyzed himself, not knowing anyone who had been, and never having seen even a reasonable facsimile of an analyst at work on the stage, Randolph approached his role, one might say, as a man in the dark. One of Randolph's nightmares is prompted by his imagining the type of letters he might have received if he had not been guided through rehearsals by Moss Hart, director as well as author of *Lady in the Dark*, who had had considerable experience with psychoanalysis and was able to suggest the proper approach. "I have been called to task by several well-known psychiatrists for minor breaches of psychoanalytical technique and etiquette. Some of the boys are pretty finicky about the fine points of their profession. There's one thing I do which nearly

all of my correspondents have pointed out is unorthodox. Here is a passage from one of these letters: 'It's a rare pleasure to be afforded so splendid an opportunity for identification with an actor on the stage as is furnished to psychoanalysts by the role you portray. The medical doctor, the surgeon and even the veterinarian has seen himself portrayed over and over again on the stage and screen, but never before the psychoanalyst. Perhaps for that very reason I cannot refrain from calling your attention to an incident during the course of your psychoanalysis of Gertrude Lawrence which would never take place at that stage of the analysis. I refer to the scene in which you permit the patient to rise from the recumbent position on the couch and wander about the room while she relates her fantasies and dreams. This happens during what purports to be the first week of the analysis. Such a thing never would be permitted in an actual case. Not until a patient is well on his way to being cured—which usually is not before a year—would a doctor permit a patient to rise from the couch and talk directly to him. Please do not regard this as a serious criticism of either your performance or the play. It is not intended as such. I thought you might be interested in knowing the one point at which you and the character you play veer from strict authenticity.'"

—Reprinted with permission from *The New York Herald Tribune*

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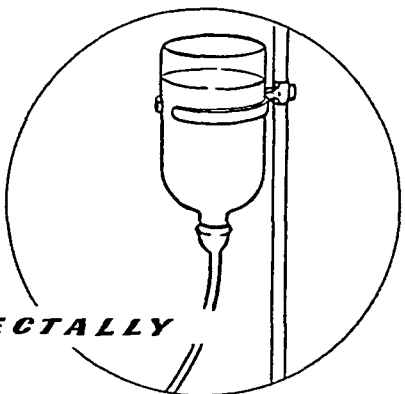
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Medical Preparedness

The information printed below with reference to the Blood and Plasma Bank Program of the Medical Division of the Office of Civilian Defense was received from George Baehr, M.D., Chief Medical Officer. The regulations governing grants to hospitals were contained in a release from the U. S. Public Health Service.

Blood and Blood Plasma Bank Program

REGULATIONS for the administration of the Blood and Plasma Bank Program of the Medical Division of the United States Office of Civilian Defense have now been prescribed, and funds are available for grants to assist approved hospitals in establishing blood and plasma banks. Only hospitals within 300 miles of the Atlantic, Pacific, or Gulf coasts are eligible for such grants. After July 1, 1942, these geographical restrictions may be modified, so that grants may be made to inland hospitals. Applications should be addressed to the Chief Medical Officer, United States Office of Civilian Defense, Washington, D. C.

Technical manuals on blood and plasma banks, prepared by the Subcommittee on Blood Substitutes of the Division of Medical Sciences, National Research Council, are now available for distribution on request of any hospital to the Chief Medical Officer, Office of Civilian Defense.

The Red Cross has established eighteen donor centers in various parts of the country, which are successful in obtaining an adequate supply of blood donors for military purposes. Blood for the production of dried plasma for Civilian Defense purposes will also be obtained from these sources.

Hospitals which establish their own blood and plasma banks with the financial assistance of the Office of Civilian Defense are advised to build up their reserves of blood and plasma by expanding blood collection from relatives and friends of patients who are to receive transfusions. A public campaign for volunteer donors that might compete with the work of the Red Cross should be avoided if possible. If public solicitation is necessary, hospitals should appeal to the local chapters of the American Red Cross for assistance in recruiting hospital donors. Blood donor campaigns by agencies other than the Red Cross will tend to confuse the public and may interfere with the blood collection by the Red Cross for the armed forces.

Regulations Governing Grants to Hospitals for Establishing Reserves of Blood Plasma

On April 11, 1942, there was allotted from the "Emergency Fund for the President" to the United States Public Health Service the amount of \$292,500, "to be expended by said Public Health Service in connection with emergencies affecting the national security and defense for procuring and establishing either independently or, subject to regulations to be promulgated by the Surgeon General, by grants to public and private hospitals located not more than 300 miles from ocean or Gulf Coast, reserves of liquid, frozen, or dry blood plasma or serum albumin for the treatment of casualties resulting from enemy action." The following regu-

lations are promulgated to govern the administration of this allotment:

Section I. Eligibility for Grants.—Preference shall be given to hospitals serving communities whose geographical locations imply a likelihood of civilian casualties from enemy action, and which are inadequately equipped to handle such casualties.

To be eligible for a grant, a public or private hospital located not more than 300 miles from ocean or Gulf Coast* shall:

1. Have a capacity of not less than 200 beds, exclusive of bassinets, provided that two or more smaller hospitals totaling 200 beds may submit a cooperative project designating one of the participating hospitals as the grantee.

2. Be on the approved list of the American College of Surgeons and the Hospital Register of the American Medical Association.

3. Have on the professional staff a physician whose qualifications are the equivalent of those required by the American Board of Pathology for its diplomates.

Section II. Approval of Plans.—A grant shall cover a period of not more than twelve months following the approval of the plan, or not beyond June 30, 1943, and may be used only for the purpose of equipment necessary for the preparation of liquid or frozen plasma, reconditioning or minor alterations of existing quarters, necessary travel and subsistence allowance of \$6.00 a day to cover a training period, if required, of not more than one week, for the physician directing the blood plasma project, and temporary salaries of personnel necessary for the establishment of a blood and plasma project.

The maximum grant for one hospital is \$2,000.

A hospital desiring to receive a grant shall submit a plan to the Chief Medical Officer, Office of Civilian Defense, who is authorized to receive such plans on behalf of the Surgeon General of the United States Public Health Service. A plan shall contain the following information:

1. The number of hospital beds, classified according to use.

2. The name and qualifications of the physician who will direct the plasma project.

3. Description of present blood and plasma project, if any.

4. The type and amount of plasma reserves which the institution desires to prepare.

5. The delivered price of equipment necessary to complete the existing facilities for preparing such plasma—such items to be numbered and described in accordance with the equipment inventory in "A Manual on Citrated Normal

* The Appropriation Act for the fiscal year 1943 may not limit grants to hospitals within this geographical area.

[Continued on page 1102]



VITAMIN B COMPLEX DEFICIENCY

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manifestations*

• The signs and symptoms of vitamin B complex deficiency are widespread and may involve the skin, eyes, nervous system, cardiovascular apparatus, and gastro-intestinal tract.

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[Continued from page 1100]

Human Blood Plasma," issued by the Office of Civilian Defense—or equivalent approved substitute equipment.

6. The materials or labor, if any, needed for adapting existing quarters to the needs of the blood plasma project.

7. The salaries, if any, to be paid additional personnel until the plasma reserve has been prepared. Salary items shall also show the proposed periods of employment for each individual and the proposed monthly rates of pay.

When a plan is recommended by the Chief Medical Officer of the Office of Civilian Defense for the approval of the Surgeon General, the hospital will be furnished a budget and acceptance form to be signed, notarized, and returned to the Chief Medical Officer, Office of Civilian Defense.

Section III. Conditions of Grants.—1. The hospital shall agree to build up a plasma reserve of at least one unit per bed within three months after delivery of the necessary equipment. A unit of plasma is that amount derived from 500 cc. of citrated whole blood, consisting of about 250 cc. of liquid plasma.

2. The agreed amount of plasma reserve shall be maintained for use without charge and only for treatment of casualties caused by enemy action. The reserve shall be released for use in other local hospitals for this purpose on order of the local Chief of Emergency Medical Service and for transfer within the state on order of the State Chief of Emergency Medical Service, or transferred from one state to another on the order of the Regional Medical Officer, Office of Civilian Defense.

3. Liquid plasma shall be kept from being outdated by replacement of older by newer plasma. Replaced units may be utilized for current needs of the hospital in the treatment of its regular patients, provided the plasma reserve shall not be allowed to fall below the stated minimum.

4. All plasma shall be prepared in accordance with manuals of the Office of Civilian Defense prepared by the Subcommittee on Blood Substitutes of the National Research Council.

5. The hospital shall agree to continue the plasma project for its current needs after the expiration of the Federal Grant and to maintain for the duration of the war the minimum stated reserve; thereafter the reserve may be used by the hospital without restriction.

6. A record shall be kept of all blood donors,

including their blood types, to expedite obtaining donors for emergencies.

7. No funds made available under the grant shall be used for the payment of blood donors.

8. Any blood plasma project under this program shall be subject to inspection by authorized representatives of the Surgeon General of the Public Health Service.

Section IV. Method of Payment.—Payments will be made on a reimbursement basis for expenditures made in accordance with the approved budget. Applications for reimbursement shall be notarized and addressed to the Chief Medical Officer, Office of Civilian Defense. The procedure for payment will be as follows:

1. Payments from the allotment to cover the purchases of nonexpendable equipment aggregating \$300 or more will be paid upon receipt from the authorized administrative head and accounting officer of the hospital of an itemized statement of the purchases, supported by invoices showing the date of delivery of such equipment.

2. Payment will be made for the authorized training expenses of the physician who is to direct the blood plasma project, whenever the hospital presents a notarized claim itemizing the travel and per diem allowance incident to the training.

3. Reimbursement for other items of the approved budget will begin only after actual production of blood plasma is started. During the first three months of production, reimbursement will be made on a monthly basis, and quarterly thereafter, for the duration of the grant. Such reimbursement will be made only upon receipt of a report form prescribed by the Surgeon General from the institution showing expenditures incurred during the period, total plasma prepared during the month, and the total reserve on hand to date.

4. Payments may be withheld, and plasma produced as part of this project may be transferred by the Surgeon General from any hospital which fails to meet the conditions of the grant or to comply with the regulations.

5. Each hospital shall submit monthly reports during the period of the grant, showing the amounts of plasma on hand and used; thereafter, for the duration of the war, the hospital shall submit such reports quarterly on its use of the plasma.

6. Hospitals shall submit promptly reports including clinical abstracts of any untoward experiences encountered in the use of plasma, for the duration of the war.

N. Y. U. OFFERS SPECIAL COURSES

In order to meet the national emergency and to enable graduate students to obtain basic training of value in support of the war effort, the Graduate School of Arts and Science, New York University, is offering the following courses as part of their regular twelve weeks Summer Session, June 29 to September 18:

Haematology and Micro-Technique (Biology)

Biochemistry and Nutrition (Biology)
Advanced Laboratory Techniques (Physics)
Semi-Microqualitative Organic Analysis (Chemistry)
Organic Synthesis (Chemistry)

All of the above courses may be applied as credit toward an advanced degree.

Postgraduate Medical Education

Programs arranged by the Council Committee on Public Health and Education of the Medical Society of the State of New York will henceforth be published in this section of the JOURNAL. Members of the committee are Oliver W. H. Mitchell, M.D., chairman (428 Greenwood Place, Syracuse); George Baehr, M.D.; and Charles D. Post, M.D.

Cancer Teaching Day

A Cancer Teaching Day will be held in Buffalo on Thursday, June 18, at 2:00 P.M., in the Hotel Statler.

Participating organizations will be the Erie County Medical Society, the University of Buffalo School of Medicine, the Eighth District Branch of the New York State Medical Society, the Medical Society of the State of New York, and the New York State Department of Health, Division of Cancer Control.

The following program will be given:

Cancer of the Larynx—Early Diagnosis and Criteria for the Selection of Methods of Treatment. (Illustrated by motion pictures and lantern slides.)

Dr. Chevalier L. Jackson, professor of clinical bronchoscopy and esophagoscopy, School of Medicine, Temple University, Philadelphia.

Hematuria and Cancer of the Genitourinary Tract.

Dr. George F. Cahill, professor of urology, College of Physicians and Surgeons, Columbia University, New York City.

Carcinoma of the Breast—Diagnosis, Treatment, and Results.

Dr. Frank E. Adair, executive officer, Memorial Hospital, New York City.

Surgery and Radiation in the Treatment of Malignancies of the Colon and Rectum.

Dr. Thomas E. Jones, surgeon, Cleveland Clinic, Cleveland, Ohio.

Recent Studies in the Production of Cancer by Chemical Compounds, the Conditioned Deficiency as a Mechanism.

Dr. Cornelius P. Rhoads, director, Memorial Hospital, New York City.

A dinner will be held at 6:30 P.M., followed by the last talk. Dinner tickets may be secured at the Registration Desk.

On May 14, Dr. Haven Emerson, of The De Lamar Institute of Public Health, Columbia University, College of Physicians and Surgeons, spoke at a meeting of the St. Lawrence County Medical Society at Ogdensburg. His subject was "The Private Physician's Place in Public Health."

AMBULANCE UNIT DOING GOOD WORK

To the Editor of The New York Times:

I should like to refer to the report sent by Harrison Forman from Chungking concerning the work of the Friends Ambulance Unit in China and Burma. I have just arrived in this country from China, having spent some five months as a member of this unit, and I think it should be pointed out that many of the trucks and ambulances used in evacuating the medical supplies from Burma were a gift from the British-American Ambulance Corps.

The unit in China is composed of British, American, and Chinese representatives and has been generously financed by the United China Relief. I feel that the work of the unit is especially significant, because it represents a joint American and British effort of cooperation and sympathy with the Chinese people.

The FAU is doing two types of work in China. One is purely medical, in which our five doctors are using the mobile hospital unit which was sent

out from this country, and doing a great deal of major surgery. The other—and this is the chief relief problem in China today—is in distributing medical supplies to hospitals all over the country. We have organized a convoy system, by which we are transporting drugs and other supplies for the International Relief Committee, the National Health Administration, and the Chinese Red Cross. Of great help in keeping the trucks in good condition is the mobile repair shop, which also was built in this country.

Although the Burma Road has now been cut, thus drastically limiting the supplies of gasoline that can be taken into China, the work can still continue. It is possible to convert trucks from gasoline-burning to charcoal-burning, and several of our trucks have already been converted and are performing well.

CHRISTOPHER SHARMAN

New York, May 1, 1942—Reprinted with permission from the New York Times



Why let a busy mother upset your formula balance?

THE OPTIMAL NUTRITION which your baby feeding prescriptions provide... may be lost through errors in formula preparation.

For even the best-intentioned mothers may make mistakes in measuring. Or leave out important supplements. Or fail to follow instructions completely.

Biolac makes such formula errors all but impossible, because:

1. Formulas are made by simply diluting Biolac with water.
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3. No supplementary formula ingredients are necessary.

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Medical News

We Thank the County Society Secretaries

... who sent in news of their county activities in answer to the memorandum of May 8. We want to hear from all of you regularly. The deadline dates for copy are the twenty-eighth and thirtieth of each month, respectively. Even though many of the regular society meetings have adjourned for the summer there is still much local news of great interest. We again urge you to forward it to us, and we should appreciate your having the copy typed double spaced.—*Editors.*

County News

Albany County

At the March meeting of the county society, held on the twenty-fifth in the auditorium of the Albany College of Pharmacy, Dr. Arthur J. Bedell, of Albany, spoke on "Ophthalmoscopy and the Conservation of Health."

A comprehensive demonstration of kodachrome slides stressed the diagnosis and prognosis of diabetes, tuberculosis, syphilis, nephritis, and hypertension. The extreme importance of ophthalmoscopy was explained, new photographs were presented, and questions were answered.

Because of the increasing interest in diseases of the Far East, Dr. Bedell showed some of his unusual pictures of leprosy.

Discussion was by Dr. James F. Rooney, Dr. R. J. Erickson, and Dr. Rudolph Reudemann, Jr.

Luncheon was served by the Woman's Auxiliary, following the meeting.

At the meeting of the county society on April 22, Dr. David M. Bosworth, of New York City, spoke on "Shoulder Lesions," illustrating his talk with colored slides and colored movies.

Discussion was by Dr. Philip L. Forster and Dr. Thomas J. O'Donnell.

At a special observance of Mother's Day in Albany, officers of the Albany County Medical Society pointed out that the city of Albany is tied for second place for the lowest maternal death rate among American cities, and that figures reveal the Albany birth rate to be steadily increasing.*

Among four persons awarded honorary degrees by Rensselaer Polytechnic Institute, Troy, at Commencement on May 17, was Dr. John A. Sampson, Albany County surgeon and professor of gynecology at Albany Medical College, as well as senior gynecologist at Albany Hospital.*

Broome County

The March meeting of the county society was held at the Nurses Residence, Charles S. Wilson Memorial Hospital, Johnson City. The members of the society were dinner guests of the medical department of the Endicott-Johnson Corporation.

The speaker of the evening was Dr. Reginald Fitz, of Boston, whose subject was "Clinical Aspects of Jaundice."

At this meeting the following motion was passed: "Resolved that the treasurer of the Broome County Medical Society be and hereby

is empowered to withdraw from the society's savings or interest account a sum sufficient to purchase one \$1,000 Government Defense Bond, Series G."

At the meeting on April 14, Dr. Philip D. Allen, attending surgeon, Knickerbocker and Bellevue hospitals, New York City, presented "Photochrome Photographs of Fresh Surgical Material."

The meeting on May 12 was held in the auditorium of the Binghamton City Hospital. Dr. Henry C. Marble, assistant professor of surgery, Harvard University, spoke on "Trauma of the Hand." Dr. Marble stressed particularly the care of wounds under war conditions, where the surgeon is limited in his choice of procedures. He also noted the great progress that has been made in the care of the wounded since the last war, particularly in the use of sulfa drugs in open wounds.

A short course in First-Aid instruction was given for members of the society on March 20 and 27 at Phelps Hall, Binghamton City Hospital. The course was given by Dr. John R. Montgomery, formerly a Red Cross physician.

Dr. William Creighton Garvin, superintendent of the Binghamton State Hospital for eighteen years, died March 3, after a long illness. Dr. Garvin was born on November 30, 1873, in Philadelphia. He was widely known in eastern medical circles. He was a student of psychiatry and a well-known figure in the health and hygiene field in New York State. After he was graduated from the College of Physicians and Surgeons of Columbia University in 1903, he served as an intern in the City, the Lying-In, and the Foundling hospitals in New York City. He became junior physician at the Manhattan State Hospital, Ward's Island, New York City, and in 1915 was appointed to the King's Park Hospital. In 1918, he became superintendent of this institution and remained there until his appointment as superintendent of the Binghamton State Hospital in 1924.

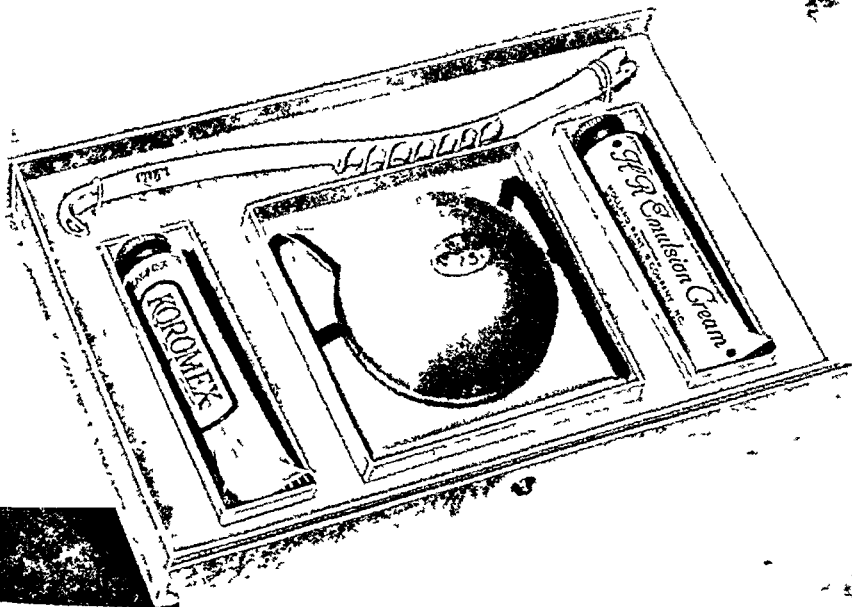
Dr. Henry C. Smith, 29 Riverside Drive, Binghamton, has entered active service in the Navy Medical Corps, with the rank of Lieutenant-Commander. Dr. Smith is at present stationed at the Chelsea Naval Base Hospital, Chelsea, Massachusetts.—*H. Jackson King, M.D., Secretary.*

Bronx County

At the regular meeting of the county society on March 18, there was a symposium on "Pe-

[Continued on page 1108]

* Asterisk indicates item is from local newspaper.



Presenting the "KOROMEX SET COMPLETE"

*Koromex Set Complete** provides the long expressed need for a compact unit containing the three important items used for approved contraceptive technique. This attractive and strongly built case is identified by an easily removed label, convenient for dispensing or prescription purposes. To order or prescribe, merely write, "*Koromex Set Complete. Diaphragm Size_____*".

KOROMEX DIAPHRAGM—The outstanding, most durable diaphragm made. Backed by the most extensive record in clinical use ever attained by any diaphragm. In special sanitary pouch.

KOROMEX TRIP RELEASE INTRODUCER—The latest development in introducers. Swivel tip facilitates usage.

KOROMEX JELLY and H-R EMULSION CREAM—Both preparations have equally high spermicidal value, but differ greatly in the amount of lubrication afforded. A tube of each is here offered so the patient may determine for herself which type of preparation better meets her aesthetic requirements and her personal preferences.

* Price of the Koromex Set Complete is only that of the Koromex Diaphragm and the Koromex Trip Release Introducer.

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[Continued from page 1106]

ripheral Vascular Diseases": "Medical Aspects of Peripheral Vascular Disease," by Dr. Irving Sherwood Wright; "Surgical Aspects of Peripheral Vascular Disease," by Dr. Beverly Chew Smith; and discussion, by Dr. Gamliel Saland and Dr. Thomas J. O'Kane.

Following the executive session at the meeting on April 15, Dr. John J. Moorhead, of New York City, spoke on "Surgical Methods During the Pearl Harbor Attack," followed by Dr. Morris Fishbein, whose subject was "The Procurement and Assignment Service."

Dr. Hugh H. Young, of Baltimore, was the speaker at the county society meeting on May 20. He talked on "Hypertrophy and Cancer of the Prostate." Discussion was led by Dr. Benjamin Barringer and Dr. Isidor Palais.

Dr. Frederick W. Williams, vice-president, presided in the absence of Dr. Abner Stern who reported for active duty in the Army on May 14.

Cayuga County

Dr. John M. Swan, of Rochester, executive secretary of the New York State Committee of the American Society for the Control of Cancer, was the guest speaker at a public meeting held at the Chamber of Commerce in Auburn on May 6. His subject was "The Prevention and Control of Cancer." The meeting was sponsored by the Cayuga County Medical Society, the Cayuga Health Association, and the Auburn Community Council. Dr. Harry S. Bull, chairman of the Cayuga County Committee of the American Society for the Control of Cancer, presided.*

Chautauqua County

"The Emergency Medical Service is rapidly gaining completion here under the capable supervision of Dr. George W. Cottis as chief. No less than 104 medical professionals are identified with the unit, including every doctor in the city, with Dr. W. Gifford Hayward as vice chief," says the *Jamestown Post Journal*, May 7.

Chemung County

The regular March business meeting of the county society, together with the annual meeting of the Health and Credit Service, Inc. (the Doctor's Business Bureau) was held on March 25 at the Arnot-Ogden Memorial Hospital.

A special meeting of the county society was held on May 8, in the society rooms at the Arnot-Ogden Memorial Hospital.—*H. L. Walker, M.D., Secretary.*

At this meeting the society took the position that deferment from U. S. service should not be asked for physically fit doctors under 45 years of age if they are needed in the armed services or other governmental work.*

The *Elmira Advertiser*, of May 5, carried this news:

"Dr. H. Curtis Bowser and Dr. Earle G. Ridall will leave May 14 for active duty with the U. S. Army Medical Reserve Corps.

"Dr. Bowser, who has been practicing medicine here for about two and one-half years, has received a first lieutenant's commission and will be assigned to Chanute Field, Rantoul, Illinois.

"Dr. Ridall has been commissioned a captain

and has been assigned to Barksdale Field, Shreveport, Louisiana. He has been associated with Dr. Arthur C. Smith since 1937.

"In line with the Army's calling into service of younger physicians, Dr. Ross E. Hobler expects to be commissioned and called to duty soon."

Dutchess County

Dr. John J. Moorhead spoke on his surgical experiences at Pearl Harbor at the regular meeting of the county medical society held on March 13 at the Amrita Club, Poughkeepsie.

The society had as its speaker at the April meeting, Dr. Howard W. Neail, assistant medical examiner of the City of New York (Queens County), who spoke on his work.

At the regular meeting of the society on May 13 a technicolor motion picture with sound was shown on "Sex Hormones, Physiology, Diagnosis, and Therapy," through the courtesy of Parke, Davis and Company.

Erie County

At the meeting of the county society held on March 24, Dr. Harold F. R. Brown, chairman of the General Practitioners' Program Committee, introduced the guest speaker of the evening, Dr. William D. Stroud, of Philadelphia, a well-known cardiologist, whose subject was "Coronary Disease." In speaking to the general practitioners, whom Dr. Stroud called the "real doctors," he said that he would take the practical side of the subject, namely, treatment, including also points in diagnosis, says the *Bulletin*.

Dr. Stroud stressed many times in his talk the importance of the physician taking a more optimistic and reassuring attitude toward the patient with cardiovascular disease, to avoid the damage done through fear and apprehension. He said that heart disease as a cause of death was given too much publicity through the press in reporting deaths, whereas cancer, tuberculosis, and the other common causes of death were always omitted from obituaries, and that this naturally had a very bad effect on the patient who knew he was suffering from a cardiovascular disease.

He also brought out forcibly that in treating hypertension and coronary disease, the physician should be especially careful not to generalize too much in the matter of diet.

At the stated meeting of the society on April 21, the guest speaker was the Honorable George L. Grobe, United States District Attorney.

A Cancer Teaching Day will be held on Thursday, June 18, at 2:00 p.m. in the Terrace Room, Hotel Statler in Buffalo.

Fulton County

The county society held a regular monthly meeting on April 16, at the Eccentric Club, Gloversville. There were twenty-five members present. Mr. John Lafabregue, vice-president of the local County Bank, addressed the society on the subscription of Defense Bonds on a monthly basis. He said that the banks would deduct the necessary amounts regularly from the checking accounts of purchasers.

[Continued on page 1110]

[Continued from page 1108]

Dr. Philip D. Allen, associate surgeon at Bellevue Hospital, New York City, showed some excellent kodachrome pictures of a wide variety of surgical, pathologic specimens.

The following members of the Fulton County Medical Society are now with the Armed Forces: Drs. A. F. Goodwin, Robert S. Kunkel, F. C. Crump, W. H. Raymond, and Morris Alpert. —*Louis Tremante, M.D., Secretary.*

Genesee County

The *Batavia News*, of May 5, carried the following item:

"Commissioned a first lieutenant in the United Army Air Corps, Medical Division, Dr. Alfred L. George, of Oakfield, is to report for active duty at Manchester, New Hampshire, air base on May 18 and thus become the first Genesee County physician to answer the call to the colors since war was declared. On May 7, Dr. Robert H. Reddick, of Gowanda, is to assume Dr. George's practice."

Jefferson County

The second meeting of the course in "Arteriosclerosis and Ageing" was held at the Black River Valley Club on April 16, with dinner at 6:30 p.m.

The subject was "Pathological Aspects," by Dr. Sigmund L. Wilens, associate professor of pathology, New York University, College of Medicine.

The series of broadcasts sponsored by the county medical society came to a close on May 11 when Dr. V. T. Rear spoke on "Mental Hygiene." The talk on May 4 was by Dr. J. L. Crossley and his subject was "Maternal Health."*

Kings County

Lt.-Col. William E. Lippold, M.D., then Medical Executive Officer, Second Military Area (now president, Medical Dept. Officer Recruiting Service, Newark, New Jersey), spoke to the county society at its regular March meeting. His subject was "Medical Service in the Army." Colonel Lippold was formerly a Brooklyn gynecologist.

Another speaker at this meeting was Dr. William F. Braasch, who is the chief consulting urologist at the Mayo Clinic, Rochester, Minnesota. His subject was "Recent Progress in the Treatment of Disease Involving the Urinary Tract."

At the regular meeting in April, Dr. William Thalheimer, who is in the Division of Health Research, New York City, spoke to the society on "Shock and Infections in Wartime and Their Treatment with Human Convalescent Serum and Blood Substitutes."

Dr. Herman N. Bundesen, president of the Health Department of the city of Chicago, spoke on "Prematurity."

The Pediatric Section of the county society had as its speaker in March Dr. Arthur M. Yudkin, of New Haven, Connecticut, whose subject was "Diseases of the Eye in Infancy and Childhood." At the April meeting, Drs. M. Murray Peshkin and Raphael Schillinger, of New York City, spoke on "Sinusitis in Childhood."

Livingston County

The Emergency Medical Services for Livingston County, under the direction of Dr. Gerald E. Murphy, of Mount Morris, have been organized and drilled. Equipment is rapidly being acquired for the First-Aid teams and will be complete by June 1. Casualty stations have been established throughout the county.

A dinner in honor of Dr. F. R. Driesbach, of Dansville, and Dr. F. V. Foster, of Caledonia, was held at Genesee on April 23, and was attended by twenty-five members and guests of the society. The occasion was the completion of over fifty years in medicine by each of these men. The speaker, Dr. W. D. Johnson, of Batavia, traced the development of medical practice from the early part to the end of the nineteenth century. Presentation of Lord Elgin watches to each doctor was made by Dr. Johnson. Dr. Foster and Dr. Driesbach responded by giving short addresses. —*Gerald E. Murphy, M.D., Secretary.*

Monroe County

At the regular meeting of the county society, held on March 17 at the Academy of Medicine in Rochester, the speaker was Dr. Foster Kennedy, professor of neurology, Cornell University Medical School, and neurologist at Bellevue Hospital. His subject was "Functional Nervous Conditions Associated with Warfare."

Preceding the lecture, a subscription dinner was held at the University Club.

A regular meeting of the county society was held May 19. The speaker was Dr. Louis H. Bauer, of Hempstead, Long Island, whose subject was "Aviation Medicine."

The new president of the Rochester Academy of Medicine is Dr. John Aikman, elected May 5.

Other officers are: vice-president, Dr. Charles B. F. Gibbs; secretary, Dr. Robert L. Brown; treasurer, Dr. Harold H. Baker; and trustees for three years, Dr. Benedict J. Duffy, Dr. John J. Finigan, and Dr. Albert D. Kaiser.

Dr. Joseph W. Howland, graduate of the University of Rochester and instructor in the university's School of Medicine, was voted the annual Taylor Instrument Company's award for his paper on "The Nature of the Plasma Proteins and Their Use in Clinical Medicine."*

"Full-scale vaccination of children, special attention to prenatal care for mothers, including special diets, and a definite effort to prevent home accidents are patriotic duties," Dr. Albert D. Kaiser, a member of the State Health Preparedness Committee, declared during a Child Health Day program.

He addressed 200 members of the Monroe County Public Health Nursing Committee and representatives of county health agencies at a luncheon meeting in Dreamland Inn, Sea Breeze. His topic was: "Safeguarding the Health of the Child in Wartime."*

Nassau County

At the county society meeting on March 31, held in the Cathedral House, Garden City, four papers were presented by the Nassau Surgical Society. They were: "Present-Day Treatment of Burns," by Dr. J. Wesley Bulmer; "Use and

[Continued on page 1112]

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THE VACATION PICTURE—1942

Vacations may not be "as usual" due to transportation curtailments in one way or another, and dim-outs have created new problems for the resorts, but nevertheless, preparations have been made on a large scale by resorts in the East to handle a rush of business from June 1 until the leaves fall.

This time of the year has always brought the same questions before the family—"where shall we go" and "how shall we get there"—but now they are even more significant, even as are the rest periods themselves. In most cases, presumably, these questions will be solved by entraining for points nearest home and it is not unlikely that the man of the family, if he sends the wife and children to the seashore or mountains for the "duration," will have to forget the week end reunions this year if the family car has to go on a diet.

Still with many excellent places within his own state or adjacent states, and within a few hours' train ride, this

problem may not become so acute. On the other hand, there is still the possibility that transportation by train may also be disrupted somewhat, so dad may have to sacrifice even the week end get-together.

To the Travel Industry, this does not present as gloomy a picture as it may to dad, for there is every indication that vacations for the entire family (excluding dad) will be for longer periods this year. Not so much that fear of air raids may cause some to send the families away to safer places for as long a time as school vacations will permit, but because it may prove the only solution to supplanting the frequent auto trips to the beach or lake.

How will all this change in vacation planning affect health? Well, if we are forced to take better and bigger vacations away from smoky cities and fume-infested highways—it should do the country at large some real good—not to mention learning again how to walk for exercise.

THE PHYSICIANS' HOME

WHO STARTED IT? A group of physicians in 1918. They recognized the tragedy of their colleagues who were destined to go to local or state charitable agencies. The purpose was to establish and create means, to offer help, and maintain self-esteem for those deserving professional men and women. *THE PHYSICIANS' HOME represents the efforts of this group.*

WHOM DOES IT SERVE? Members of the medical profession of New York State, on recommendation from their local county medical society.

WHERE DOES IT SERVE? In their own community or as our guests.

WHO ARE OUR GUESTS? Aged, indigent physicians in good standing or widows of physicians.

WHO SUPPORTS IT? Members of the medical profession in the State of New York by voluntary contributions and legacies.

We appeal to the profession for continued support for this worthy charity

Make checks payable to: THE PHYSICIANS' HOME, 52 E. 66th St., New York

[Continued from page 1110]

Misuse of Iodine in Treatment of Thyroid Patients," by Dr. John N. Shell; "Importance of Human Bites," by Dr. Otho C. Hudson; and "Pregnancy Complicated by Tumors in the Pelvis," by Dr. Aaron L. Higgins.

"Diagnostic Problems and Procedures in Chronic Pulmonary Diseases" was the topic of the scientific session of the meeting of the county society held on April 2 at the Nassau County Sanatorium. Dr. James C. Walsh, medical director, Nassau County Tuberculosis Hospital, was the chief speaker.

An open meeting for all members of the society and their friends was held on May 13, in cooperation with the County Nutrition Council. The speaker was Dr. R. R. Williams, chemical director of the Bell Telephone Laboratories. Dr. Williams is chairman of the Health Committee for the National Research Council on Foods and Nutrition. Dr. James C. Walsh discussed the relationship of nutrition to tuberculosis.

New York County

Plans for an intensive course in the medical aspects of chemical warfare to be given physicians of New York State were made on May 6 at a meeting held at The New York Academy of Medicine in New York City. Assemblyman Lee B. Mailler, chairman of the Health Preparedness Commission of the New York State War Council, presided.

Physicians from New York City, who recently completed a four-day course in treating victims of chemical warfare, attended the meeting and decided on the standards and curricula they will follow in giving a similar course to eighty-five doctors who are acting as local chiefs of Emergency Medical Services in the cities and counties of the state.

Among the doctors who attended the meeting were Dean Willard C. Rappleye, of the College of Physicians and Surgeons, Columbia University; Dean J. A. W. Hetrick, of the New York Medical College of Flower and Fifth Avenue hospitals; Dean Currier McEwen, of the New York University College of Medicine; Dean William S. Ladd, of the Medical College of Cornell University; and Dean Alonzo Curran, of the Long Island College of Medicine, Long Island University; Dr. E. S. Rogers, assistant commissioner of Medical Administration, State Department of Health; Dr. Edwin M. Bernecker, commissioner of hospitals and chief of the Emergency Medical Services for New York City; Dr. O. W. H. Mitchell, of the State Medical Society of Syracuse, and deans of the four upstate medical schools.

Mr. Mailler announced the appointment of David Rutstein, director of the Cardiac Bureau, New York State Department of Health, to the position of deputy state medical officer for gas protection in the Emergency Medical Service.

At the monthly meeting of the county society on May 25, held in The New York Academy of Medicine, Maj. Henry E. Miller, of the Chemical Warfare Corps, U. S. A., and Capt. Reynolds Hayden, district medical officer, U. S. Navy, were the guest speakers.

Oneida County

The March meeting of the Utica Academy of Medicine had Dr. Herbert D. Adams as guest speaker. Dr. Adams, a member of the surgical staff at Lahey Clinic, Boston, spoke on "Diseases of Thyroid." At the outset he said that diseases of thyroid are still complex and their treatment chiefly surgical.

Dr. H. L. Pender opened the discussion of Dr. Adams' paper, which was continued by Dr. B. di Iorio, Dr. Edward R. Evans, Dr. Fred Jones, Dr. Lucy Cobb, and Dr. Hyzer Jones.

Dr. Willard H. Willis presented the preliminary paper, "Clinical Implications of Recent Studies of Iron Transportation and Utilization." Dr. T. Douglas Kendrick led the discussion.

At the April meeting of the Utica Academy of Medicine Dr. Edgar Burke, chief surgeon and assistant medical director, Medical Center, Jersey City, New Jersey, spoke on "Some Aspects of Biliary Tract Surgery." Dr. Dan Mellen opened the discussion.

Dr. W. P. Hall also spoke at this meeting, and his subject was "The Glaucomatous Eye." Dr. Walter Duggan opened the discussion.

The Maimonides Medical Club feted five of its members who have enlisted for Army service at a dinner on April 30, in the Hotel Utica.

The guests of honor are seeking commissions and hope to be in active service by June 1.

The physicians are: Dr. Eliot M. Friedman, Dr. Herman J. Segaul, Dr. Arthur A. Kaplan, Dr. Jack Getzlek, and Dr. Harry Freedman.

Dr. J. J. Wineburgh, president, was in charge of entertainment. Dr. A. T. Goldstein, Dr. Charles Greene, Dr. Harold Katzman, Dr. Morris Rower, Dr. David Harris, Dr. Harvey Cummings, Dr. Stuart Krohn, and Dr. Paul Cahn spoke.*

Dr. Martin Smederling will join the Oneida County Hospital staff July 1, Dr. Robert L. Bartlett, superintendent, has announced.*

Onondaga County

At the March meeting of the county society, Dr. Henry H. Ritter, professor of clinical surgery, New York Post-Graduate Medical School, Columbia University, discussed "Fractures in General—the Treatment of Common Fractures."

From the *Onondaga Bulletin*:

On April 7 Dr. R. C. Farrow discussed "Acute Subacromial Bursitis and Its Treatment by Needle Puncture." This procedure consists of inserting two needles in the bursa and washing it out with saline solution. The results in the acute cases are gratifying enough to warrant its continued use. The discussion was opened by Dr. Richard S. Farr and continued by Dr. George Lynch and Dr. William Pelow.

The second paper was read by Dr. Floyd R. Parker on "Acute Iliac Adenitis—Report of Two Cases in Children." This condition usually results from infection of the lower extremities, but may come from infections elsewhere.

Dr. Julius Voehl's paper was on "Erythema Induratum (Bazin's Disease)—Report of Two Cases." This is one of the manifestations of tuberculosis of the skin, of which there are many. He demonstrated by lantern slides the appearance of the lesion, and also microscopic

[Continued on page 1114]

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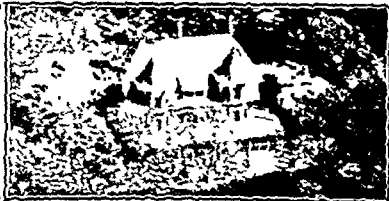
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"DON'T BLAME SCIENCE"

In a recent issue of the *Saturday Evening Post*, the editor remarked that "Science is often charged with being an accomplice in the waging of war." He stated that discoveries admittedly have increased the scope of warfare, but it is overlooked that the tools devised are equally useful for human benefits in the hands of men of good will.

Quoting Dr. Albert F. Blakeslee, retiring president of the American Association for the Advancement of Science, the *Post* editor reported this man's reply to the critics of science.

Dr. Blakeslee had shown that while science has added to the mortalities of war in one way, it has more than offset them in another. Figures supplied by the Surgeon General's office revealed that deaths among Ameri-

can forces due to battle injuries increased from fifteen per 1,000 in the Mexican War to thirty-three in the Civil War and fifty-three in the first World War. The death rate of soldiers from disease, however, was reduced from 110 per 1,000 in the Mexican War to sixty-five in the Civil War and nineteen in World War I. So for all the increased deadliness of modern weapons, the net result has been an actual reduction in the risks to life in the fighting forces. "And scientific advance is still further reducing the risks," added the editor.

There may be some measure of comfort to the mothers and fathers of those in the service of our flag in such facts—but there is still the problem for science to eliminate deaths of warfare entirely.

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[Continued from page 1112]

sections. The discussion was opened by Dr. Leon Griggs and continued by Dr. W. L. Weeden.

Dr. R. W. Urquhart addressed a joint meeting of the county society and the Syracuse Academy of Medicine on May 12. His subject was "Problems of War Medicine and Surgery in England During 1940 and 1941." Dr. Urquhart saw two years of service in the ranks of the Medical Corps in the last war. He has been a lecturer on the staff of the Department of Pathological Chemistry, Faculty of Medicine, University of Toronto, since 1925.

Dr. Thomas F. Laurie, Dr. E. C. Reifstein, and Dr. E. S. Van Duyn, all of Syracuse, and Dr. Stuart B. Blakely, of Binghamton, are members of the medical advisory board of the New York State Federation for Planned Parenthood, which recently was in session in New York City.

"An increasingly sympathetic attitude is being displayed by medical associations toward child spacing work," Dr. Claude C. Pierce, medical director of the federation, said at the annual meeting.

"During the month of April, two states, Tennessee and Florida, have passed resolutions indorsing child spacing," Dr. Pierce announced. "The resolution in each state was sponsored by the maternal and child welfare committee of the State Medical Association and was to the general effect that child spacing, an important part of preventive medicine, should be kept in the hands of the medical profession.

"In each of these states, the House of Delegates and the medical association approved the resolution," Dr. Pierce said. "This means that in these two states there are no impediments against child spacing work being incorporated as a part of the regular program of the state and county public health programs. It is an encouraging fact to us of the Planned Parenthood Federation that the medical profession is giving its official indorsement to child spacing work."*

Ontario County

The regular second quarterly meeting of the county society was held at the Clifton Springs Sanitarium and Clinic, in Clifton Springs, on April 14. A dinner preceded the scientific session when Dr. A. M. Wedd, of Rochester, New York, spoke on "Hypertension."

Orange County

The Committee on Public Health and Education arranged for a series of three two-hour lectures which were on the use of sulfa drugs, given in Middletown on May 12, 19, and 26.

The March monthly meeting at the St. Francis Hospital, Port Jervis, stressed the role of physicians and hospitals in civilian defense.

The March meeting at the St. Luke's Hospital, Newburgh, included a talk on hypertension nephritis by Dr. Herbert Chasis, of New York University.

The monthly meeting at the Horton Hospital in Middletown included case reports on catarrhal jaundice and carcinoma of the thyroid.
—N. P. Cosco, M.D., Secretary.

Queens County

The Friday afternoon lectures, at 4:30 p.m., sponsored by the Graduate Education Committee of the Medical Society of the County of Queens, were:

April 3—"Office Treatment of the Ambulatory Diabetic," by Dr. William S. Collens.

April 17—"Preventive Methods in Certain Tropical Diseases," by Dr. Zacharias Bercovitz.

May 1—"Some Preventable Errors," by Dr. John C. Gerster.

May 15—"Sterility," by Dr. I. C. Rubin.

The April stated meeting was devoted to the subject of obstetrics, and the program was as follows:

April 21, 8:30 p.m.—Dr. William E. Studdiford conducted a "Symposium on Obstetrics."

The subjects and speakers were:

"The Treatment of Postpartum Hemorrhage"—Dr. Arthur M. Reich.

"The Classification and Treatment of Hypersensitive Conditions Associated with Pregnancy"—Dr. Irwin Wellen.

"The Relationship of the Anaerobic Streptococcus to Puerperal Infections"—Dr. Melvin Stone.

On May 26, the society held its annual joint meeting with the Queens County Bar Association. There was a symposium on "The Lawyer, the Doctor, and the Patient," the purpose of which was to point out the differences arising between the medical and the legal professions in trials where medical testimony is necessary. It was not a debate, but a discussion of the problems confronting the lawyer and the doctor in relation to liability suits.

The speakers were: The Honorable Henry G. Wenzel, Justice of the New York State Supreme Court, moderator; David J. Kaliski, M.D., chairman of the Workmen's Compensation Committee of the Medical Society of the State of New York; Henry Vollmer, Esq., attorney; Walter J. Hess, Esq., president of the Queens County Bar Association.

The Maternal Mortality Committee of the society held its regular meeting on March 27 and April 24 for the discussion and analysis of all maternal deaths in Queens County.

On April 30, the Medical Board of Jamaica Hospital held a lecture on "Chemical Warfare" at the Society building.

The Section on Neurology and Psychiatry held a joint meeting with the Section on Internal Medicine on April 7. The subject was "Emotional Factors in Hypertension," by Dr. Carl Binger. The Section held another meeting on May 22.

The Mental Hygiene Committee has been holding monthly meetings in psychosomatic medicine, concerning some of the problems that the doctor is called upon to meet in general practice.

The Medical Preparedness Committee of the society meets on the average of once a week in its efforts to cooperate with the Office of Procurement and Assignment.—Ezra A. Wolff, M.D., Secretary.

[Continued on page 1116]

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A HUMAN GUINEA PIG TEST—IN AVIATION

A nest of fledglings has just been uncovered for Uncle Sam's air forces. Some 300,000 future Aces between the ages of 17 and 19 will receive a highly technical training annually, as a result of an experiment made in the Navigation Section of Pan American Airways which is training young army air corps cadets at the University of Miami.

A human guinea pig test disclosed that the average young high school graduate can master aerial navigation and meteorology almost as quickly as can the college graduate, if he shows the proper aptitude. Previously, some college education has been considered essential to master such technical skill within the short time prescribed in the army's war preparation program.

To determine the potentiality of high school graduates as aerial navigators, a 17-year-old graduate of Miami High School was chosen to take the navigation and meteorology course in a class of college men being taught by Pan American Airways. The test case graduated from high school with just average honors.

Charles Lunn, director of the Navigation Section which is training both American and British cadets,

foresaw the time when the United States might need to dip into the reservoir of high school graduates to obtain manpower for its growing warplane armada. He appealed to the army and was granted permission to experiment with a high school graduate.

During the first three weeks, the youngster lagged behind his college-graduated classmates, displaying a slow mind in grasping the significance of the work, but upon mastering the fundamental conception of the course, he forged ahead rapidly, making grades as good as the best of them.

Although he received no special instruction, he kept pace with the others and graduated with a rating that would have given him a commission as second lieutenant in the army had he been eligible.

His graduation means that each year some 300,000 other young men of like age and education are potential material for aerial navigation instruction, figuring that of about 600,000 young men graduating from high school, at least half are of the required physical and mental makeup.

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[Continued from page 1114]

Rensselaer County

Dr. George D. Hoffeld of Troy has been assigned to the Providence, Rhode Island, naval recruiting station from the Newport naval training station. He will work with Lieut.-Com. John H. Fay, senior medical officer at the main office in Providence.

Dr. Hoffeld, who has been a surgeon in Troy since 1931, was graduated from the Long Island College of Medicine and did postgraduate work at the Cook County Hospital in Chicago. In 1940 he discovered suprarenal backache disease, and published an article on the subject in the *JOURNAL* in 1940.

He joined the Navy a few months ago.*

"The city of Troy ranks second among second-class cities (50,000 to 100,000 population) of this state in the percentage of children, under five years of age, immunized against diphtheria," Dr. James H. Flynn, Troy health officer, stated on May 7.

Dr. Flynn made the statement as he appealed to parents of the city to have their children immunized against smallpox and diphtheria at the present time.

A bulletin of the New York State Department of Health, dated January 1, 1942, shows that Utica was first in the state, with a rating of 76 per cent, and Troy, was second, with a rating of 71 per cent.*

Rockland County

The regular spring meeting of the county society was held at the Rockland State Hospital, Orangeburg, on May 6.

Dr. John J. Moorhead, of New York City, delivered a most interesting talk on the "Surgical Phases of the Pearl Harbor Attack." He was in Hawaii at the time of the Japanese attack, lecturing to the physicians at the University of Hawaii on traumatic surgery. Not more than five minutes had elapsed after Dr. Moorhead opened his lecture on December 7, when an explosion occurred outside of the auditorium, and the surgeons were immediately summoned to the Army hospital. Dr. Moorhead, a veteran of the First World War, volunteered his services and was restored to active duty for a couple of months with the rank of colonel. The lessons Dr. Moorhead brought back were most instructive and timely.

After adjournment of the meeting, Dr. Russell E. Blaisdell, superintendent of the Rockland State Hospital, had a buffet supper served to the members of the Society and their guests.—*Alexander N. Selman, M.D., Secretary.*

"Dr. William J. Ryan, for twenty years superintendent of the Rockland County Tuberculosis Hospital, died suddenly at that institution on February 2, from coronary thrombosis.

"Dr. Ryan was universally beloved. In addition to his work at the hospital, he established school tuberculosis clinics throughout the county. Shortly after his arrival in the county, he was elected president of the Rockland County Medical Society. He was then advanced to secretary, in which office he served continuously until his death, being the guiding spirit of the organization. "There have been greater men. There have been none better."—*Dean Miltimore, M.D.*

St. Lawrence County

Dr. L. J. Austin, of Kingston, Ontario, gave a lecture on "Military Medicine" to the St. Lawrence county medical society in Ogdensburg on May 7. The lecture, held at the A. Barton Hepburn Hospital, followed a luncheon at the Crescent Hotel.

Dr. Haven Emerson, of New York City, lectured on May 14, and Dr. F. H. McKay, of Montreal, on May 21.

Saratoga County

Dr. William Ordway, of Mt. McGregor, has completed a splendid work in organizing the medical profession of Saratoga County for National Defense. As Chief Emergency Medical Officer of the county, he has established a control center in Saratoga Springs, operating on a twenty-four-hour duty. Fifty First-Aid stations have been designated, and three fully equipped casualty units are functioning. The American Red Cross has furnished supplies on demand and directed the organization of ambulance units.

Captain William Moore, of Saratoga, is an instructor at the Officers School in Carlisle, Pennsylvania.

Dr. James English, of Schuylerville, received a commission as First Lieutenant, and is stationed at Jefferson Barracks, St. Louis.

The June meeting of the county society will be held at Saratoga Lake.—*M. J. Magovern, M.D., Secretary.*

Schenectady County

Dr. Yolande H. Huber, of New York City, addressed the county society on April 7 on "Plastic and Reconstructive Surgery."

Dr. Richard H. Overholt, thoracic surgeon at the New England Deaconess Hospital, Boston, discussed clinical observations and treatment of commonly disguised lung diseases at a meeting of the county society held May 12 at the Glenridge Sanitarium.*

Suffolk County

The May Clinic schedule at the Huntington Hospital included a chest clinic on May 19, an orthopaedic clinic on June 5, tumor diagnostic service on May 12, and a mental hygiene clinic on May 27.

Warren County

Dr. B. J. Singleton was re-elected president of the Glens Falls Hospital Medical Staff at its annual meeting on May 5. Dr. Floyd Palmer was elected vice-president, to succeed Dr. Byron C. Tillotson, of Fort Edward. Dr. William W. Bowen was re-elected secretary-treasurer.*

Westchester County

More than 250 physicians and their guests heard a discussion of the "Kenny Treatment for Infantile Paralysis" at the regular county medical society meeting on March 17, at the New York Hospital, Westchester Division, in White Plains. The speakers were Dr. Wallace H. Cole, of St. Paul, Minnesota, and Dr. Philip M. Stimson, of New York City, who have been inter-

[Continued on page 1118]

NEW YORK STATE JOURNAL OF MEDICINE

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VOLUME 42

JUNE 15, 1942

NUMBER 12

Editorial

Immediate Recruitment of Medical Officers

The Army has streamlined its method of commissioning medical officers.

Five thousand physicians are needed at once.

Eleven thousand or more will be needed by December 31, 1942.

If you have not done so, fill out and return your Procurement and Assignment enrollment form and questionnaire. If you have not received one, write immediately to the National Roster of Scientific and Specialized Personnel, 916 G Street, N. W., Washington, D. C., for your forms.

The Surgeon General will not commission a physician unless he is certified as available by the Procurement and Assignment Service.

1. The Surgeon General and the Adjutant General have named teams of two officers and two clerks, who will procure the names of all available physicians who have volunteered from the state chairman for physicians of the Procurement and Assignment Service in your state.

2. These teams will have the authority to make final decisions on the application forms, to procure and make final decisions on the physical findings and to administer the oath of office immediately to those who qualify physically and professionally, who are under the age of 45 and who are to be given the rank of lieutenant or captain.

3. These teams have the authority to initiate the applications and physical examinations and forward the papers with their recommendations direct to the Surgeon General for commission for all physicians

under the age of 45 who might apparently be qualified for rank above that of captain.

4. These teams will have the authority to initiate the applications and physical examinations and to forward to the Surgeon General direct the papers and their recommendations on all physicians 45 to 54, inclusive. The Surgeon General will make the final decisions and commission those for whom there are vacancies in this age group.¹

In order that this streamlined recruitment of medical officers may function speedily, you are urged to contact your state chairman of physicians for Procurement and Assignment Service, Dr. Henry W. Cave, 292 Madison Ave., New York City, at once.

State to him that you want to get into the service right now.

Do this regardless of whether or not you have written to the Washington office of the P. and A. Service or to the Surgeon General or have enrolled on the emergency enrollment form of December, 1941.

If you applied for a commission more than thirty days ago, tell the state chairman you want to see the recruiting board. The Boards are located in New York State at Albany, Binghamton, Buffalo, New York City, Rochester, Syracuse, and Utica (see page 1160 for names of Recruiting Officers and addresses of boards).

This is no leisurely war. And it can't be won by amateurs or sidewalk superintendents. No training or experience in civil life is analogous to that afforded

¹ J.A.M.A. 119: 33 (May 2) 1942.

[Continued from page 1116]

ested in the application of this treatment for infantile paralysis in the United States.

Discussion of the papers was opened by Dr. Don Gudakunst, medical director of the National Foundation for Infantile Paralysis, who resides in White Plains.

Others who took part in the discussion were Dr. George H. Ramsey, county commissioner of health and chairman of the Medical Advisory Committee of the Westchester Chapter of the National Foundation for Infantile Paralysis, through whom the program had been arranged; Dr. Isadore Zadek, of Mount Vernon; Dr. M. Bernard Brahdy, of Mount Vernon; Dr. William B. Snow, consultant in Physical Therapy to the New York Orthopaedic Hospital; Dr. David A. Lubarsky, of White Plains; Dr. Wallace C. Douglass, of New Rochelle; Dr. Milton P. Hunter, of Pleasantville; and Dr. H. M. Herring, of Mount Vernon. Drs. Cole and Stimson closed the discussion.

"The address of Dr. John J. Moorhead, on 'Surgical Lessons from the Pearl Harbor Attack,' at the society's meeting on April 21, provided an impressive climax in a series of remarkably successful scientific meetings presented during the season now closing," says the *Westchester Medical Bulletin*. "More than 325 members of the society were present at this meeting, comprising the largest number ever to attend a meeting of the county medical society. Dr. George C. Adie of New Rochelle, the president, was in the chair, and the speaker was introduced by Dr. E. Leslie Burwell of New Rochelle, who was a comrade-in-arms of Dr. Moorhead in World War days.

"Dr. Moorhead was at his best, which is very good indeed. In cryptic fashion, he described the strange series of coincidences which resulted in his being in Hawaii at the outbreak of war, and the dramatic and tragic events which took place during and after the surprise attack of the Japanese. . . ."

Dr. Homer F. Swift, of the Hospital of the Rockefeller Institute for Medical Research, was the guest speaker at a postgraduate lecture session on May 13, at the New York Hospital, Westchester Division. His subject was "Rheumatic Fever." This program was arranged for the Public Health Committee of the county society by the Council Committee on Public Health of the State Medical Society and was presented through the courtesy of the State Society and the State Department of Health.

Under the auspices of the county society, a demonstration of the operation of a plasma and blood bank was given by the staff of the White Plains Hospital on May 26, under the direction of Dr. J. W. Ehrlich.

Dr. Ehrlich is the author of an article on this subject that was published in the September 1, 1941, issue of the *JOURNAL*.

Wyoming County

Promotion of Dr. Bruno J. Tryka to the rank of captain at Fort McClellan, Alabama, has been announced. Simultaneously, Captain Tryka was named chief of the Alabama Induction Board, says the *Rochester Democrat & Chronicle*, May 11.

Captain Tryka was the first Wyoming County physician to be inducted into the service, leaving last summer.

Deaths of New York State Physicians

Name	Age	Medical School	Date of Death	Residence
Abraham D. Eisenberg	60	P. & S. N. Y.	May 13	Brooklyn
James P. Glynn	71	P. & S. N. Y.	May 8	Brooklyn
Reuben T. Johnston	64	Boston	May 10	Brooklyn
Arthur V. Payne	76	N. Y. Univ.	March 20	Brooklyn
Barney W. Phillips	49	N. Y. Hom.	May 4	Milford
Chauncey A. Rood	87	Buffalo	May 2	Brocton
Horace E. S. Root	39	Queens Canada	May 5	Manhattan
John W. Sansom	72	Vermont	May 11	Sparkill
Thompson Sweeney	66	Kentucky	May 4	Manhattan
Terry M. Townsend	65	Louisville	May 16	Manhattan
Ross F. Wolever	48	Syracuse	May 4	Fulton

THE "AMERICAN WAY" PROGRAM

The Medical Society of New Jersey and Kiwanis clubs in the state cooperated in a project that resulted in eighty-four talks being given before 4,000 Kiwanians on the topic "The American Way of Distributing Medical Care."

PATIENCE

Officer (to man pacing the sidewalk at 3 o'clock in the morning): "What are you doing here?"

Gentleman: "I forgot my key, officer, and I'm waiting for my children to come home and let me in."

—*Milwaukee Med. Times*

must be given in four different calendar years, the obvious result will be that graduates after the abbreviated course will be disqualified for licensure unless the standards are reset by amendatory legislation."

The report says that "Within the next few months an attempt will be made to develop a fairly accurate approximation of the number of trained personnel to be secured by this process of speeding the production of physicians and to ascertain whether the number of physicians so trained will be adequate to supply the anticipated needs of the military and civilian population for new graduates during the next few years."

This report is of such significance that we urge careful reading of it on our members. It should be studied in connection with the urgent necessity for the establishment of uniform standards of licensure.

In pointing out that war conditions emphasize the great need for such uniformity, the *Journal* says:

"The results of the state licensing examinations published in this issue of the *Journal* are striking evidence of the lack of uniformity of standards of licensure among the various states. Seven states reported not one failure in their 1941 licensing examinations; indeed, they had not had a failure in the past five years. Twelve additional states have reported failure of less than 1 per cent during the same period. Other states, notably New York, have each year reported a high percentage of failures.

"In New York 21.8 per cent of the gradu-

ates of the New York State medical colleges who tried the New York State licensing examinations failed, while 39.4 per cent of the graduates of other approved medical colleges in the United States who tried these same examinations failed. Of the 145 graduates of New York State medical colleges who tried licensing examinations in other states, 4, or 2.8 per cent, failed

"The lack of uniformity of results in some states is made more obvious by the fact that a candidate is passed if he receives an average of 75 per cent and is not below 50 per cent in any subject. Furthermore, in case of failure in not more than two subjects the applicant may be entitled to another examination in the subjects failed and is considered conditioned and is not reported as a failure.

"Paradoxically, New York, which reported the highest percentage of failures among the graduates of approved medical colleges on its own examinations, issued a greater number of licenses on the basis of credentials without examination than did any other state.

"In spite of this lack of uniformity, the fact is striking that the graduates of the foreign medical schools and the unapproved schools in the United States showed the highest percentage of failures, 59.6 and 46.0, respectively. Six states licensed graduates of unapproved schools during 1941. Four states granted unlimited licenses to practice medicine to graduates of osteopathic schools."

The situation in this state as revealed in the report on licensing examinations in 1941 is, to say the least, paradoxical. There should be an explanation forthcoming.

Immunity Against Pertussis

Whooping cough is the one contagious disease of infancy that remains unsolved. Deaths from measles, scarlet fever, diphtheria, and infantile paralysis—all combined—do not equal the total number of annual deaths from pertussis in babies. Attempts have been made to induce immunity in young infants, but they have all failed. Experimental efforts hitherto have not exempted even laboratory animals, which have been inoculated against whooping cough.

It occurred to Cohen and Scadron¹ that if

the pregnant mother could be immunized actively during the latter part of her pregnancy, the newborn child might have a safeguard against infection by *Bacillus pertussis*. Accordingly, they inoculated expectant mothers with one hundred and twenty to one hundred and fifty billions of a potent whooping cough vaccine. Agglutinins, complement fixings, and protective antibodies that were controlled by mouse protection tests were subjected to studies in both mothers and their babies before and after inoculations. They studied 200 women by this method, and 32 of them and their offspring were subjected to immunologic studies. Every one of the

¹ Cohen, P., and Scadron, S. J.: Paper read before the Section on Pediatrics, Convention of the American Medical Association, June 10, 1942.

by active military duty. For this reason physicians entering the military services must be intensively trained for their new duties. All of this takes time.

It is therefore imperative that recruitment of medical officers shall go forward as rapidly as possible. Sign on now, doctor!

The Physician Population

In view of the ever increasing demands of the military services and expanding industry for competent physicians, information at this time on the increase in the physician population of the United States is timely.

There were 5,681 additions to the medical profession in the United States and its territories and possessions in 1941, the Council on Medical Education and Hospitals of the American Medical Association reports in its fortieth annual compilation of medical licensure and allied statistics, published in the May 9 issue of the *Journal* of the Association. "The number removed by death annually approximates 3,700," the report says. "It would appear that the physician population in 1941 was increased, therefore, by about 1,900. While it cannot be said that all of those licensed are in practice, it may be assumed that the great majority are."

"The greatest number in any one state were added in New York, 993, and 449 in Illinois," the report says. "More than 300 received their first license in California and Pennsylvania. The states of Indiana, Louisiana, Maryland, Minnesota, Missouri, New Jersey, Tennessee, Texas, Virginia, and Wisconsin increased their population of physicians by between 100 and 201. Thirty-one states, the District of Columbia, Alaska, Hawaii, Puerto Rico, and the Virgin Islands added fewer than 100. Of the licentiates constituting additions to the medical profession last year, 5,213 secured their licenses after examination and 468 by endorsement of credentials."

Commenting on this aspect of the annual report on medical licensure, the *Journal* says that "Of these 5,681 newly licensed physicians, 626 were graduates of foreign medical schools, and 226 were graduates of unapproved medical colleges in the United States. During 1941, 4,738 graduates of approved medical colleges were added to the profession in the United States. Accumulated data indicate

that during the past seven years there have been 41,983 new additions to the profession.

"As a result of increases in the number of students admitted and the adoption of an accelerated curriculum by most of the medical colleges, the annual additions to the profession from the medical schools of this country should increase by more than 25 per cent during the next few years."

According to the report, the greatest increase in physician population, according to geographic division, was 1,554 in the Middle Atlantic states. The East North Central group added 1,183, the South Atlantic 622, the West North Central 608, the Pacific group 440, the New England states 418, the West South Central group 415, and the Mountain states 91.

Forty-nine medical schools have adopted an accelerated curriculum, involving both the acceptance of entering students and the graduation of a class every nine months. Eleven have adopted an accelerated curriculum involving the graduation of a class every nine months but will admit an entering class on an annual basis. One school will continue operating on the four quarter plan, admitting new students and graduating a class every quarter. Eight schools have not adopted an accelerated program.

"As has been pointed out," the report says, "there are many difficulties involved in the acceleration of the program, and where a school has failed to adopt such a program in order to maintain satisfactory standards, it is to be commended rather than criticized."

"The acceleration of the training of medical students to the end that graduation will occur following three calendar years of instruction raises questions concerning medical licensure that demand consideration along with a consideration of the merits of the proposal itself."

"The medical practice acts of the several states define the standards that a medical school must maintain in order that graduates may qualify for licensure. If those standards are defined in such a way that courses of study

BACTERIAL FILTRATES IN THE TREATMENT OF CUTANEOUS INFECTIONS

FRANK C. COMBES, M.D., New York City

IN 1924 Alexander Besredka¹ reported for the first time on the use of bacterial filtrates in the prevention and treatment of various infectious processes. He declared that bacterial filtrates, locally applied, inhibit the development of the microorganisms from which the filtrates are prepared, and exert a therapeutic effect by increasing the natural immunity of the skin.

Besredka prepared broth cultures which he filtered after an incubation period of eight days. He then inoculated the sterile filtrate with the original bacterial strain, and re-filtered the culture after a second incubation period of eight days. Besredka called this filtrate the "antivirus." During the preparation of the bacterial filtrates, he noted that the growth of bacteria was less intense in the first filtrate, and that in repeating the process he obtained a product in which no growth occurred. He attributed this lack of growth to the presence of an antivirus, which he believed to be a specific for the organisms from which it had been elaborated. Besredka referred to many clinical reports to show that the bacterial filtrates were being used with considerable success as wet dressings on a variety of local staphylococcic and streptococcic infections.

Subsequent investigators, including Gay and Morrison,² Rivers and Tillett,³ Mallory and Marble,⁴ conclusively demonstrated that the effect of the filtrate was actually an amplification of tissue immunity through stimulation of the clasmatoocytes. The work of Mallory and Marble and that of Toomey and Friedlander⁵ showed that temporary local immunization against staphylococci could also be produced by wet dressings of uninoculated broth. Gay, however, although unable to assert that a specific form of cell protection is involved, came to the conclusion that the use of filtrates of specific microorganisms "give rise to thicker granulation tissue, more clasmatoocytes, and still greater protection than those obtained with broth alone." According to Oesterlin, bacterial filtrates possess infection-resisting qualities that are entirely lacking in broth. Admitting that an occasional

increase in resistance caused by nonspecific filtrates has been found, he insisted, nevertheless, that the protection produced by specific filtrates seems to be more intense and more dependable.

In 1932, Besredka,⁶ while not disavowing his original assertion that the filtrate possesses definite specificity, conceded that its action in some cases might be indirect by increasing the resistance of the cells. He maintained, however, that staphylococcus and streptococcus bacterial filtrates fixed alexin electively and were specific, and prevented the development of the corresponding bacteria.

All investigators, while denying the specificity of the bacterial filtrates and their ability to produce constitutional immunity by transcutaneous absorption, admit that the filtrates are capable of producing local immunity of varying degree.

Besredka's concept of local immunity drew much attention; however, few clinical reports on the therapeutic value of bacterial filtrates have been published in this country. Only recently these filtrates have found a wider application in the treatment of local infections. Boenke⁷ reported on the treatment of a case of erythema induratum with a filtrate of staphylococci, streptococci, and *Bacillus pyocyaneus*. Boyd and Weissberg⁸ successfully applied bacterial filtrates to many cases of varicose and diabetic ulcers that had resisted other medication.

For the past year we have carried on an extensive study to determine the therapeutic value of bacterial filtrates in the treatment of cutaneous infections. To this purpose bacterial filtrates were used in the treatment of various dermatoses occurring in hospitalized patients and in ambulatory patients in private practice. All the patients treated had cutaneous lesions caused by *Staphylococcus albus* and *Staph. aureus*, and by streptococci. In only a few cases were the organisms cultured.

Bacterial filtrates were used in two forms: the filtrate preserved by 0.5 per cent phenol and an ointment containing 12 per cent of the filtrate.* The filtrate was prepared according to the method of Besredka from *Staph. albus*,

From the Department of Dermatology and Syphilology, New York University College of Medicine, and the Third Medical (New York University) Division, Bellevue Hospital, Service of Dr. Frank C. Combes.

* The material for this study (Antipeol Liquid and Antipeol Ointment) was kindly supplied by the Bio-Therapeutic Laboratories, Inc., East Orange, New Jersey.

women showed a high titer of immune bodies, which was transmitted in every instance to the baby. The controls showed few or no immune bodies in the newborn.

All past work on this subject seems to indicate that Cohen and Scadron have been able to produce, finally, a passive immunity against whooping cough in the newborn. They state, naturally, that further studies must be pursued to determine the duration of

this immunity. *The time is too short to evaluate the duration of the protection afforded, but this is being followed up assiduously.*

Their work is to be noted. It represents a new approach in preventive medicine. If our newborn babies can be assured protection against whooping cough for but a few months, a definite lowering of infant mortality will result. It is hoped that this work will be continued and corroborated.

Correspondence

May 13, 1942

The Council
Medical Society of the State of New York
292 Madison Avenue
New York, New York

RE: Introductory No. 2037, No. 2522,
introduced March 18, 1942, by
Mr. Milmoë.

Gentlemen:

In the Supplementary Report No. 2 issued by the Committee on Legislation of the State Medical Society on April 25, 1942, Dr. Joseph S. Lawrence mentioned my name as opposing the Milmoë Grievance bill.

In all fairness and justice, the following are my reasons for opposing this legislation:

"The above bill which is an act to amend the Education Law in relation to the Committee on Grievances, empowered to hear, determine and make recommendations to the Board of Regents in disciplinary proceedings against physicians, seeks to modify the law, by providing that a *unanimous vote of the subcommittee of three is necessary for a finding of guilt. The proposed amendment to Section 1265 of the Education Law is objectionable and inequitable.*

"At present, Section 1265 of the Education Law requires a unanimous vote of the full committee of ten members of the Medical Grievance Committee in order to find a practitioner of medicine guilty of charges after a hearing.

"This provision has long been criticized and properly so, because of the unusual and unwarranted power it places in the hands of one member of the committee, to frustrate the decisions of the nine other members. After the expense incurred and the time spent in lengthy preliminary investigations, authorization of charges, preparation of such charges and hearings thereupon, it seems unjust and inequitable that the determination and convictions of nine men are rendered meaningless by the decision of one member to dissent. The law should be more flexible so as to allow for the sincere and honest differ-

ences of opinion which necessarily arise in the trial of controversial issues without defeating the purpose and intent of the law. Judges in Appellate Courts differ in their reactions to identical sets of facts, but such differences are not permitted to render useless their deliberations and decisions.

"In the legal profession, where courts deal with substantial rights of property or with the freedom of even the lives of men, ultimate action may be by majority decision, viz.: In the Appellate Division of the Supreme Court by a vote of 3 to 2, in the Court of Appeals by a vote of 4 to 3 and in the United States Supreme Court by a vote of 5 to 4.

"Now it is suggested that Section 1265 of the Education Law be amended to require a *unanimous vote of guilt by the subcommittee of three who originally hear the charges.* If there is not a unanimous vote, under the proposed amendment, then the case is dismissed without the knowledge of the full Committee. This, I believe, is too great a power and responsibility for any one member. Thus, the very power to veto the will of the full Committee which now exists in the requirement of the unanimous vote, will still be lodged in one member except that under the proposed amendment, he would be able to exercise this objectionable power by dismissing a case at its inception.

"The Medical, Homeopathic and Osteopathic professions do not seem to trust their prominent members who gratuitously serve on these committees. Therefore, it is proposed that no disciplinary action can be taken against a doctor except by *unanimous vote of the subcommittee*, so that one member of the committee can stand in the way of intelligent action, thereby keeping in the profession an undesirable, unethical, dishonest practitioner. In these enlightened days that condition should not prevail. The medical profession should not be subject to the charge that it is protecting those who violate the Medical Practice Act.

[Continued on page 1206]

no evidence that any systemic immunity is induced.

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CIVILIAN BLOOD BANKS PLANNED BY LOCAL COMMITTEE

The collection of blood plasma for military use should not obscure the need for a permanent, inexpensive reservoir of whole and processed blood for civilian transfusions. Headed by Dr. Lester J. Unger, the Special Committee on Blood Transfusion of the Medical Society of the County of New York has made an interesting and important contribution to this problem with a plan for the creation of blood banks in large hospitals to supply the requirements of smaller institutions, says *The Journal of the Medical Society of the County of New York* in a recent issue.

To operate a successful blood bank, a hospital must do at least 750 or 1,000 transfusions a year. Otherwise, it alternates between an excessive supply of blood, which goes to waste, and shortage. The plan suggested by the County Society's Special Committee would establish banks at suitably equipped hospitals from which blood or plasma could be drawn, and in which it would be deposited, according to need. One of the participating institutions would be designated as a central office where all available supplies would be registered, for the information of hospitals without compatible blood at any particular time.

Basic charges would be somewhat lower than current rates for private patients. Ward and semiprivate patients would benefit more materially. As increased volume permitted, charges would be reduced.

A noteworthy feature of the plan suggested by Dr. Unger's committee is the negligible capital investment required—about fifty dollars, plus the cost of a refrigerator for each participating hospital. To be appreciated fully, this figure must be compared with the \$25,000 quoted by the Blood Transfusion Betterment Association, and the \$75,000 by a commercial organization, as the initial cost of similar projects.

With the impetus given to the collection and storage of blood and plasma by the war, there is danger that this field may be taken over by lay business interests unless physicians and hospitals act first. Commercial operation would not be in the best interests of the public. In view of its low initial cost and administrative simplicity, the plan suggested by the Special Committee on Blood Transfusion of the Medical Society of the County of New York merits serious consideration.

A MESSAGE FROM LENOX HILL HOSPITAL TO ALL NURSES

The following is a comparison of the earnings of General Duty and Special Nurses at today's rates:

<i>General Duty Nurses</i>	
Salary for 12 mos. at \$75.00.....	\$ 900.00
Allowance for living out.....	300.00
3 meals per day—11 mos.	396.00
(approx. value \$1.20 per day)	
Value of laundry at \$5.00 mo.	60.00
	<hr/>
	\$1,656.00

Provided also at no cost to the nurse,
1 mo. vacation
2 weeks' sick leave
Compensation coverage in the event of injury or infectious disease.

<i>Special Duty Nurses</i>	
11 mos. (6-day week).....	\$1,440.00
(this is optimum, not average)	
Value of 2 meals per day for 288 days at \$0.80.....	230.40
	<hr/>
	\$1,670.40

No provision for salary during vacation. No time off for holidays. No sick leave allowance. No compensation coverage.

Please note that the above calculation is on 288 days of work for each type of nurse.

Only a few specials can do this. The average earnings in our hospital are a little over \$1000 or about \$400 less than shown in the table; and we do better than most hospitals.

Even if the hospitals approve an increase of \$1.00 per day for Special Duty nursing, the average earnings will be \$100.00 less per year than for General Duty Nursing, and the advantages of General Duty Nursing will still be lacking.

These are war times. Special Nursing is a luxury. Our Country and our Hospitals need nurses. The decision is up to you.—Printed in *Bureau-Grams*, May, 1942

It is recorded that a famous Danish surgeon offered to furnish a volume of his mistakes to the International Technical Surgeons. He thought

his errors would be more instructive than a report of his successful procedures.—*Sims's Connotations*, reprinted from *Medical Record*

aureus, and citreus, *Streptococcus viridans*, pyogenes, and haemolyticus, and *B. pyocyaneus*. The filtrate was diluted with three to five parts of physiologic saline solution. A report of the results follows.

Carbuncle.—Fifteen patients with carbuncles were treated with uniformly good results. The most satisfactory effects seemed to follow the application of the ointment during the stage of congestion, changing to the filtrate during the period of necrosis. The essential features in all instances were a lessening of the pain and the rapid onset of suppuration, often within twenty-four hours. There did not appear to be any curtailment of the period of involution, although liquefaction and discharge from the lesions were more profuse than in cases in which the filtrate was not used. The local use of the filtrate did not prevent the development of metastatic lesions on other parts of the body. In no instance was it necessary to incise or excise a lesion.

Furuncle.—Twenty-six patients with furuncles, of from one to several lesions, were treated. The method was similar to that followed in treating carbuncles, but in many cases the ointment was used exclusively. The results were approximately identical. In no instance was it necessary to incise a lesion, although in several cases openings were bored in the apex, with pure liquefied phenol on an applicator. There was an acceleration of the healing process after the expulsion of the necrotic slough. Here again the filtrate did not prevent metastatic lesions, although in one patient, with a multiple furunculosis of several months' duration that was confined to the leg, the process was checked and cured by the application of the ointment twice daily to the entire area.

Hydradenitis Axillaris.—Five patients with recurrent abscesses in one or both axillas were treated with the ointment. Results were good in 3 patients; one patient who had experienced recurring lesions in one axilla was permanently relieved within three weeks. During this time she developed a lesion in the other axilla. This lesion also responded promptly to dressings moistened with the ointment. One patient, a man, with involvement of the perineal region, was also benefited by application of the ointment.

Furuncle of the External Auditory Canal.—Two cases were treated by means of gauze wicks placed in the canal, the patient keeping them moist with the filtrate. In both cases there was prompt relief from pain. In one case it was necessary to incise the lesion. This patient also had a seborrheic dermatitis involving the canal, which was improved by the ointment but recurred when its use was discontinued.

Furuncle of the Nares.—Furuncles in this location are potentially dangerous and necessitate conservative therapy. One patient with such a lesion was treated with the ointment and recovered rapidly. He also received intracutaneous injections of sterile milk protein, which may have contributed to the rapid liquefaction of the lesion.

Sycosis Vulgaris.—Six cases were treated, none of which had responded favorably to other measures. None of them was helped by either the ointment or the filtrate.

Ulcus Cruris.—Two ulcers of the leg in dia-

betics that were recalcitrant to various remedies responded to application of the ointment. One of the patients was confined to bed, which undoubtedly aided in his recovery. Fourteen patients with simple ulcers of the leg associated with varicose veins were helped by application of both ointment and filtrate. Three leg ulcers of unknown cause were unimproved. One leg ulcer of two years' duration from which *Staph. aureus* and *Str. haemolyticus* were cultured responded favorably to the treatment. One patient with three ulcers of the arm following bites by humans was unimproved following treatment with the ointment.

Perifolliculitis Abscedens et Suffodiens.—One patient was treated without benefit.

Staphylococchia.—One patient with a severe *Staph. albus* infection of several months' duration involving the scalp, the bearded region of the face, the nose, the eyebrows, and the eyelids was unaffected by either the ointment or the filtrate.

Infectious Eczematoid Dermatitis.—Five cases of infectious eczematoid dermatitis were treated; 4 improved; one was unimproved.

Varicose Eczema.—Eleven patients with varicose eczema were treated with the filtrate. It was efficacious in eliminating secondary infections and crusting of the lesions. While none of these patients was cured, all showed definite improvement.

Tabetic Ulcers.—One tabetic ulcer was treated with objective improvement following the application of a wet compress of the diluted filtrate. Later the lesion was packed with the ointment, but no further benefit was noticed.

Impetigo Contagiosa.—Eight patients with impetigo were treated with the ointment. Patients were instructed to cleanse the lesions twice daily with soap and water, to remove the crusts and to apply the ointment every three or four hours. The results were better than those obtained by the use of ammoniated mercury ointment, the length of disability averaging about ten days. Two patients recovered after three days.

Acne Vulgaris.—Five patients with acne vulgaris were treated with the ointment. None of them improved. Eleven cases of pustular acne were treated in the same way. Eight of these showed improvement, with disappearance of the pustular lesions; the others showed no change.

Blepharitis.—Two patients with chronic blepharitis marginalis were treated with the ointment. Both improved but later relapsed. This failure may be explained on the basis that both patients had a seborrheic dermatitis of the face and scalp.

Conclusions

1. Notwithstanding their lack of specificity, bacterial filtrates exert a beneficial effect on staphylococcal and streptococcal infections of the skin, especially carbuncle, furuncle, and impetigo.

2. The essential features of therapy with bacterial filtrates are prompt relief from pain, rapid onset of suppuration, and acceleration of the healing process.

3. Its effects are entirely local and there is

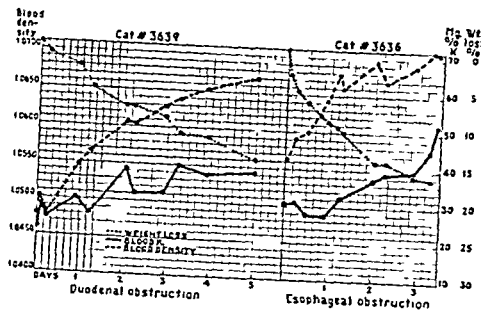


FIG. 1. Experimental dehydration in the cat: illustrating increase in blood density before changes in salt concentration.

of dehydration; and (5) they foretell the ultimate fall in blood pressure. In other words, the shift of fluid from blood to tissues heralds the approach of shock, and by being forewarned one is forearmed.

In following a case of shock, the sensitivity of these tests can differentiate between shock due to trauma or dehydration and shock due to hemorrhage. Thus, internal hemorrhage can be detected before fall in blood pressure or before clinical manifestations of blood loss.

The four tests which we make in cases of shock, as well as in the control of fluid therapy, are: specific gravity of *peripheral blood*; cell volume as determined by the hematocrit on venous blood; specific gravity of plasma; and estimation of total plasma proteins (Fig. 3). These tests can be made within fifteen minutes' time and give objective evidence as to whether more fluid should be given or whether fluid therapy should be stopped. They also help to decide whether blood, salt, glucose, or plasma should be used.

Case Report

A man, aged 26, was brought to the Presbyterian Hospital ten minutes after his motorcycle had crashed into a tree. He was treated for shock on admission. In a subsequent intravenous pyelogram, the left kidney outline could not be seen. He was treated for four days conservatively, during which time his fluids were pushed.

The dilution of the blood in this case is well illustrated by the decrease in cell volume (hematocrit) and in total plasma proteins (Fig. 4). Yet despite adequate excretion by the other kidney (as judged by the output) and the large administration of fluids, the patient's circulating system was being flooded by the potassium liberated from injured tissue. Had he been operated upon during this period of hyperpotassemia, the outcome might have

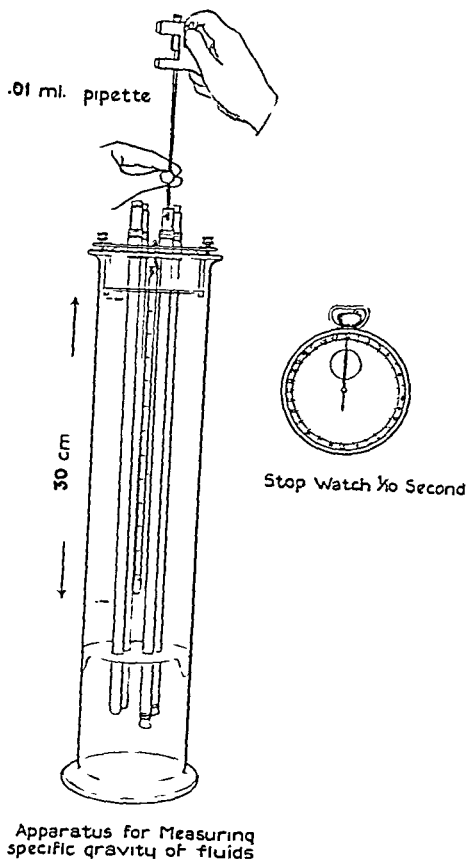


Fig. 2. Barbour and Hamilton apparatus for measuring the specific gravity of body fluids.

been different. These measurements reveal the wisdom of conservative therapy during the first few days in dealing with traumatic rupture of the kidney.

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BLOOD STUDIES IN SHOCK AS A GUIDE TO THERAPY

The Defense Mechanism of the Kidney

JOHN SCUDDER, M.D., New York City

UROLOGISTS may be interested in the fact that Roy's⁹ work on the kidney paved the way for the new conception of shock. In 1884, Roy proved that following nervous stimuli kidney volume decreased, as measured by a Masso instrument. This is due to a contraction of the renal blood vessels. Simply stated, blood vessels narrow following harmful stimuli.

Of what significance is this discovery?

If one should ask an engineer what would happen to the volume flow of water if a two-inch pipe were to replace a four-inch pipe, he would immediately answer that one would get only one-sixteenth as much water, if all the other factors were held constant. This same Poiseuille's law holds good for blood flow. If such organs as the brain, heart, or kidneys were to receive only one-sixteenth of the usual amount of blood because of vasoconstriction, it would not take long for serious injury, or perhaps irreversible damage, to occur.

Roy was also curious as to what would relax these constricted vessels. He saw that ordinary saline introduced into the circulating system would do so. You have observed this phenomenon at operations. When the saline is started, there always seems to be more oozing in the operative field, and the cut arterioles appear to squirt more vigorously.

Feltz and Ritter⁴ in 1881, working on experimental uremia in dogs, saw an increase in potassium in both the blood and the tissues. In these states, extra potassium salts hastened the onset of death. Recently, these original observations of Feltz and Ritter have been strengthened and confirmed through electrocardiographic data in relation to experimental uremia in dogs.¹⁷ The effect of potassium upon the electrocardiogram in man^{6,11} and in animal^{3,5,12,13,14,15,16} have been noted.

It has been established beyond reasonable doubt that alterations in salt concentrations are associated with the syndrome of shock.^{10,19}

From the Surgical Pathology Laboratory of the College of Physicians and Surgeons, Columbia University, New York City.

Read by invitation at the Annual Meeting by the Medical Society of the State of New York, Buffalo, April 30, 1941.

Of the various cations, the potassium ion shows the greatest change. This is because, like the rabbit, monkey, and pig, man is a potassium animal. Following injury, potassium escapes from damaged tissue and must be excreted. The kidneys and the adrenal cortex stand first in the maintenance of the normal distribution of water and salts. It is for this reason that good renal function is of paramount importance in the control of shock. Should this excretory mechanism fail, some of the potassium is excreted in the stools, saliva, and sweat. As an emergency mechanism, vomiting probably rids the body of excessive accumulation faster than any other mechanism.

Do we depend upon sodium and potassium analyses in the management of a case of shock? We do not, for the simple reason that such analyses take many hours, at a time when we need measurements which take only a few minutes.

There are, however, certain tests that are more reliable than either potassium or sodium analyses. These tests are also of more value because they anticipate by hours, and in certain instances by days, the ultimate changes in the salt concentrations (Fig. 1). Robert Boyle² first made use of them in 1684. Boyle was a physicist and was curious about weights of things. He measured the specific gravity of both blood and serum, and found it in each case to be greater than that of water, and to differ in various diseases. This work was substantiated by Jurin⁷ in 1719. During the early half of the nineteenth century, the cholera epidemics which swept Europe and England afforded an opportunity to O'Shaughnessy⁸ in England and to Wittstock¹⁸ in Germany to determine that both blood and serum lost water as judged by the increase in their weights. Today we have the modified Barbour and Hamilton¹ apparatus for the determination of density of body fluids (Fig. 2).

Other reasons why we rely on specific gravity tests of blood and of plasma in the syndrome of shock are: (1) they are easily done; (2) they are readily mastered; (3) they are reproducible; (4) they are twenty-five times as delicate as the red blood count in the assay

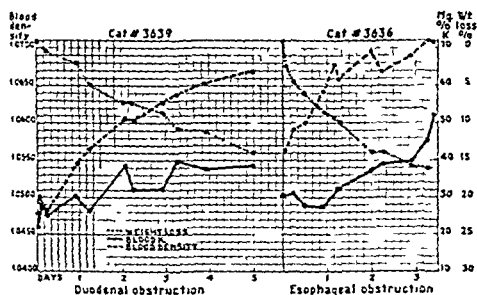


FIG. 1. Experimental dehydration in the cat: illustrating increase in blood density before changes in salt concentration.

of dehydration; and (5) they foretell the ultimate fall in blood pressure. In other words, the shift of fluid from blood to tissues heralds the approach of shock, and by being forewarned one is forearmed.

In following a case of shock, the sensitivity of these tests can differentiate between shock due to trauma or dehydration and shock due to hemorrhage. Thus, internal hemorrhage can be detected before fall in blood pressure or before clinical manifestations of blood loss.

The four tests which we make in cases of shock, as well as in the control of fluid therapy, are: specific gravity of peripheral blood; cell volume as determined by the hematocrit on venous blood; specific gravity of plasma; and estimation of total plasma proteins (Fig. 3). These tests can be made within fifteen minutes' time and give objective evidence as to whether more fluid should be given or whether fluid therapy should be stopped. They also help to decide whether blood, salt, glucose, or plasma should be used.

Case Report

A man, aged 26, was brought to the Presbyterian Hospital ten minutes after his motorcycle had crashed into a tree. He was treated for shock on admission. In a subsequent intravenous pyelogram, the left kidney outline could not be seen. He was treated for four days conservatively, during which time his fluids were pushed.

The dilution of the blood in this case is well illustrated by the decrease in cell volume (hematocrit) and in total plasma proteins (Fig. 4). Yet despite adequate excretion by the other kidney (as judged by the output) and the large administration of fluids, the patient's circulating system was being flooded by the potassium liberated from injured tissue. Had he been operated upon during this period of hyperpotassemia, the outcome might have

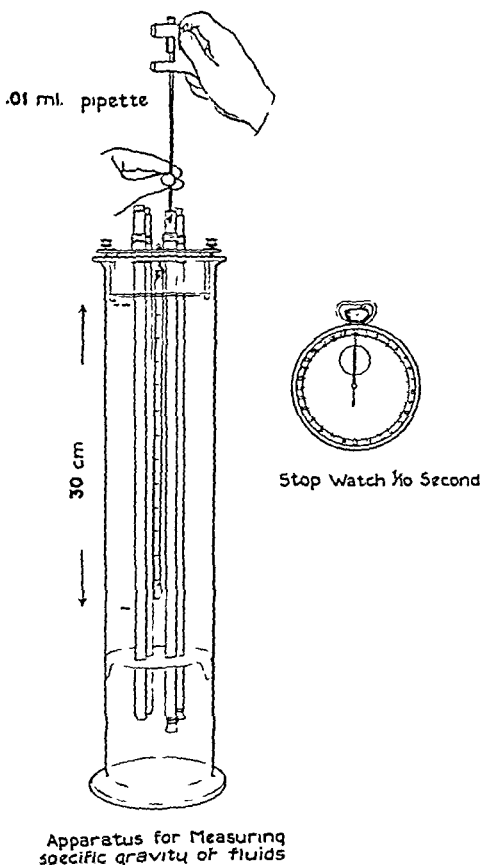


FIG. 2. Barbour and Hamilton apparatus for measuring the specific gravity of body fluids.

been different. These measurements reveal the wisdom of conservative therapy during the first few days in dealing with traumatic rupture of the kidney.

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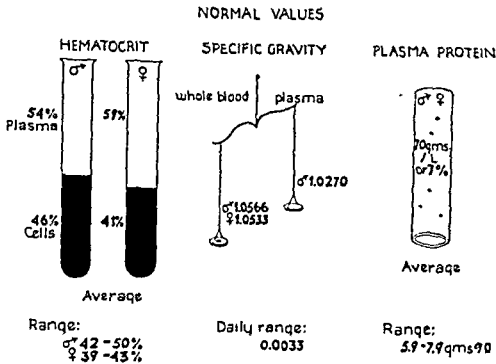


FIG. 3. Normal values.

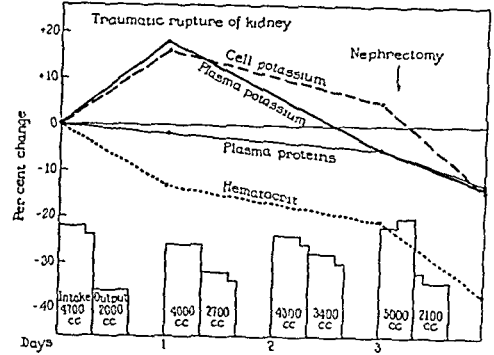


FIG. 4. Electrolyte and fluid changes in blood associated with injury following rupture of a kidney.

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Discussion

Dr. Paul W. Searles, *Buffalo, New York*—In the impressive and thorough method of following a case of shock outlined by Dr. Scudder, the comparative minute-to-minute check-up of all the properties of blood with which we are concerned in shock gives us a clear-cut plan of treatment.

The actual determination of the blood and plasma specific gravities and of the cell volume is quite simple to do, but the correct valuation of results can only be obtained by a frequent use of the method.

I have not followed specific gravities in patients before or during operation. This would mean that about 10 per cent of the cases coming to surgery would have specific gravity determinations immediately before operation and during operation. I think that specific gravity determination would be worthwhile in cases that are poor risks or are having operations in which shock is most likely to occur. My method at present is to set up an intravenous drip in this type of case. Blood or plasma is often administered before any fall in blood pressure or marked elevation in pulse occurs, merely on the basis that shock is anticipated.

I have followed the specific gravity of the blood and the plasma in several burn cases. I

was able to keep one case with a 75 per cent burn of the entire body alive for one month by the use of plasma. The amount of plasma and other intravenous therapy to be administered was based on specific gravity determinations.

The determination of the cell volume is also a simple procedure and gives an immediate index to the concentration of red cells. The red count and hemoglobin can be roughly determined from this procedure. Roughly, a hemoglobin over 130 per cent, due to loss of fluids into the tissues, forewarns of a fatal ending. Likewise a hemoglobin below 25 per cent caused by hemorrhage is considered fatal.

I have been impressed by the large dose of adrenal cortex given intravenously by Dr. Scudder. It is always rather difficult for me to conclude whether the adrenal cortex is the factor which is improving the patient or whether it is the plasma. I am sure that my dose of adrenal cortex has not been sufficient.

Dr. W. C. Eikner, *Clifton Springs, New York*—We are particularly grateful to Dr. Scudder for his excellent presentation regarding the changes in the blood and tissues of the body predisposing to the condition that we speak of as shock. Dr. Scudder has been a pioneer in this field of investigation, having first become interested in it in dealing with Asiatic cholera while serving as a medical missionary in India. His recently published monograph on the subject bears evidence of his years of earnest endeavor, not only at the bedside, but in the experimental laboratory.

While I have had no personal experience with the details of the laboratory tests involved in studying the blood in shock, I am sure that all of us here are perfectly familiar with the condition which we call shock. To my mind there has been no better description of the clinical picture of shock given than that included in the definition made by W. B. Cannon, which is as follows:

"Shock is a generalized bodily state, which occurs after severe injury, and which is characterized by a low venous pressure, a low or falling

arterial pressure, a rapid, thready pulse, a diminished blood volume, a normal or increased erythrocyte count and hemoglobin percentage in peripheral blood, a leukocytosis, an increased blood nitrogen, a reduced blood alkali, a lowered metabolism, a subnormal temperature, a cold skin moist with sweat, a pallid or grayish or slightly cyanotic appearance; also by thirst, by shallow and rapid respirations, often by vomiting and restlessness, by anxiety changing usually to mental dullness, and by lessened sensitivity."

This, of course, is the classical picture of acute surgical shock, and one in which we need no particular laboratory studies to aid us in recognition. The important point, however, for us to remember as regards Dr. Scudder's presentation, is that by the use of the hematocrit, serum protein studies, etc., on patients in our wards, we shall be able to predict impending shock long before its actual occurrence. By having this information at hand, and noting changes in the blood serum indicative of impending shock, we are placed in a much better position in treating the patient. Being forewarned is certainly being forearmed.

Acute surgical shock following trauma, such as in automobile and industrial accidents, etc., still is our most difficult problem. Over this we have no particular control except as regards the prognosis and regulation of the treatment. In other cases, however, it would seem advisable to have all of the information at hand, so that the patients can better be prepared for the procedures they have to undergo.

A more simple definition is that shock is a deficiency in the circulating blood or fluids. As Dr. Scudder has already pointed out, there are many factors which influence this deficiency. In the treatment of a shock patient, measures must be taken to combat this deficiency. By and large the most efficacious single remedy is blood transfusion. Intravenous administration of isotonic or hypertonic saline and glucose solution is very valuable, but it is to be remembered that the effect lasts for a short period of time only. Extracts of adrenal cortex have also proved to be very beneficial, but here also the effect is short-lived and repeated doses are always necessary.

While blood transfusion has proved to be our most valuable aid in the treatment of shock, one drawback has been the difficulty which we have all had in securing a proper donor, particularly in the middle of the night. This situation has been

solved by the institution of blood banks in the larger medical centers, but in smaller hospitals, where the frequency of blood transfusion has been much less than in the larger centers, the preservation of whole blood has been somewhat of a problem. It has been our practice to store citrated blood in a refrigerator, and we have found that this can be done satisfactorily for a period of at least two weeks. We try in this way to secure enough blood ahead of time to carry us through any emergency during or following operations, etc. Recently Barton has described a simplified method of satisfactorily preserving citrated blood in 2.5 per cent dextrose for a period of forty-six days. Now, with the advent of blood plasma, it seems that most of our difficulties will have been solved, as it should soon be practical for even the smaller hospitals to have a supply of this on hand.

It would seem to be much more practical and simpler to operate a plasma bank than a blood bank. Harper, Osterberg, Priestley, and Seldom recently described the method used at the Mayo Clinic for the preparation of dried human plasma. This, of course, gives us the ideal solution to the problem of treatment of shock. Dried human blood plasma can be kept sterile and free from deterioration for an indefinite period of time. It is, therefore, always available, and when needed can be given almost on a moment's notice by the addition of sterile distilled water. An additional advantage of plasma over whole blood is that it can be given in concentrated form or not, according to the fluid demands of the patient, and that reactions following its administration are relatively few and mild as compared with those following blood transfusion. The preparation of fluid plasma requires very little additional equipment beyond that ordinarily found in a clinical laboratory, while the preparation of dried plasma is still a tedious, time-consuming task.

It has been recently shown that deficiencies in nitrogen metabolism requirements can be met not only by the addition of protein, but by the intravenous administration of amino acids. Elman and Weiner, and more recently Altshuler, Hensel, and Sahyun have developed methods by which amino acid mixtures can be prepared by the acid hydrolysis of casein. This method of intravenous alimentation, as they call it, is perhaps of more value in cases showing definite symptoms of protein deficiency, such as edema, etc.

When novocaine first came into use, a local dentist in a nearby town tried it out as an experiment. He injected the drug in the jaw of his patient, an elderly man, and then asked him how he felt. There was no answer. The dentist waited a minute and asked, "How do you feel

now?" Still no answer. Nervous, the dentist grabbed a glass of ice water and threw it in the patient's face to revive him. The man jumped up and yelled, "Good Heavens, what ails you? I'm all right. I'm just hard of hearing."

Ill. Med. J.

RETENTION OF THE SPHINCTER IN THE RADICAL OPERATION FOR CARCINOMA OF THE RECTUM AND RECTOSIGMOID

ABRAHAM O. WILENSKY, M.D., New York City

THIS paper purposes emphasis upon resection of the rectum or rectosigmoid in continuity with retention of the sphincter, no matter what the special type and method of approach may be, and with special reference to operability, feasibility, healing of the resulting wound, mechanical results, and permanent results with reference to recurrence and metastases.

Many of the standard forms of operation include a permanent colostomy. To many patients this is not voluntarily acceptable if there is any other choice; they accept it as imperative in the fear of contemplated consequences, and urged on by assurances of livability, etc. But it is my conviction that many times there is a good deal of unnecessary ruthlessness in the sacrifice of the sphincter. This belief seems to be well supported by the following essential facts.

Anatomic Considerations

Embryologically, the anal canal is to be sharply distinguished from the rectum proper; continuity of the bowel at the point of junction is due to prenatal fusion.

Histologic Data

In this part of the large bowel, the presence of squamous cell epithelium in a neoplasm indicates an origin from the anal canal; this type is, however, rare. Nevertheless its presence indicates the clinical likelihood that the direction of spread of the growth is caudad and forward along the perineum; that enlargement of the lymphatic glands is to be looked for in the groins; and therapeutic necessity for dissection toward the anus with removal of the sphincter.

Similarly, the presence of columnar cells and adenoid structure in a neoplasm of this part of the bowel indicates an origin in the rectum proper. This is the common histologic type. It indicates that the spread of the growth is away from the sphincter and toward the mesorectal lymphatics and glands upward toward the abdominal lymph glands. Therapeutically, other things being equal, it permits retention of the sphincter when this is technically feasible.

Forms of malignant adenoma and of papillary carcinoma usually arise from the rectum

proper. While they are histologically malignant, they very often run a very benign clinical course and the extensive dissection required in other forms of carcinoma in this part of the bowel is often not necessary. It has been my experience that local resections done for this type of tumor are as successful both immediately and permanently as the more extensive types of operation. And in any event, in my experience, it has always been possible to conserve the sphincter.

The lymphatic plexus of the anal canal and rectum proper is distinct at first, but fusion occurs later. The lymphatic spread of either segment occurs as indicated in the previous paragraph, and in clinical practice this distinction prevails, except in those instances in which the neoplastic growth involves both sides of the embryologic line of the anorectal junction; in the latter case the spread may occur in either or both ways. Bilateral spread is, however, clinically a relatively rare phenomenon. The histologic differentiation is recognizable in preoperative biopsy specimens.

I agree with Gordon-Watson⁸ that, practically speaking, lymphatic spread does not occur generally until the growth has penetrated through the bowel wall.

Clinical Considerations

Epithelial malignancies of the anus and rectum are of relatively slow growth and, while inflammatory lymph node enlargement is common, neoplastic metastases occur relatively late. This is exemplified in the series of cases reported by Larson,¹¹ and by Harding and Hankins,¹⁰ and the corresponding greater operability is shown in the series of Adams,¹ of Crafoord,⁴ and of the Mayo Clinic.¹³ Lymph node metastases militate against a five-year survival, no matter how extensive the operation is made. Venous metastasis only rarely precedes lymphatic spread and correspondingly contributes to the good results in the cases operated upon early.

Biopsies

Preoperative biopsies are not very reliable for the purposes of prognosis. A somewhat better opinion can be derived from the study of the operatively removed specimen.

Preoperative estimations of the prognosis

according to Brody's method are available in the preoperative biopsy. Duke's method is possible only after removal of the tumor proper. It gives a better picture than Brody's method. No prognosis can be made during the operation from the gross appearances available then of the primary tumor, and the impossibility of distinguishing purely inflammatory from neoplastic glands (60-70 per cent) only adds to the difficulty.

Technical Considerations

Radical Operability.—The radical operation is technically possible when there are not too many adhesions to neighboring viscera, when the tumor has not grown into the pelvic wall, when adjacent viscera are not too extensively involved, when lymph node metastasis is not too extensive, and when distant metastases are not present in the abdominal or other viscera. For the purpose of conserving the sphincter, it is not necessary to give up a single item of radicality in performing the operation. One can remove the entire malignancy with all of its lymphatics and all anatomically associated lymph glands which show the slightest evidence of enlargement; one can include a wide dissection and excision of any suspicious tissue, if the tumor has already perforated the bowel wall; and, if necessary, one can also include the removal of any neighboring organ (uterus, prostate, etc.), if it should seem to be involved by extension of the growth.

The size of the tumor bears no relation (1) to the lymph node enlargement, (2) to the presence of metastases, (3) to the operability of the growth, (4) to the feasibility of its removal, and (5) to the possibility of retention of the sphincter. The size of the tumor is usually of no significance technically, and in any event the tumor is usually relatively and actually small. Its relative position in the rectum or rectosigmoid is not very important.

General factors, such as the general condition of the patient, often only serve to delay performance of the radical operation until such time as the condition is satisfactory.

It seems unnecessary to add that the radicality of any operation is in direct proportion to the earliness of the diagnosis and of the operation. A very important physical factor is obesity: the operative procedure is much more difficult, and the incidence of infection is greater and of much more serious nature when it occurs. This can be an almost insurmountable obstacle to the performance of the operation, to the subsequent recovery of the

patient, and to the healing of the wound.

The success of the operation in this type of major surgery is always in direct relation to the skill and experience of the operator and the helpfulness and teamwork of the assistants. Good postoperative care is of equal importance, and depends to a large extent upon the facilities of the hospital and the faithful care and attention of the nursing staff.

Conservation of the Sphincter.—Retention of the sphincter is possible whenever a radical operation is possible—when the lower border of the malignancy is at least 3 inches from the anal margin—and depends upon the presence of a long, mobile, unscarred sigmoid and mesosigmoid.

Blood supply at the line of junction after resection of the tumor-bearing portion depends upon the point of ligation of the superior hemorrhoidal artery; and, although a high ligation is frequently necessary, this should and can be tempered by the necessities of the occasion and the will not to be too ruthless when the occasion does not demand it. If there has been judicious arrangement of the lines of section, a relatively good blood supply can frequently be retained and the amount of marginal necrosis can be limited. Commonly a fecal fistula forms; but this should be no more deterrent to the determination to retain the sphincter than it is or would be in a resection of the sigmoid with end-to-end suture. Occasionally, too, the effort is rewarded by a healing with so little marginal necrosis that the fecal fistula is negligible or entirely absent.

Resection of the Rectum in Continuity.—Resection of the rectum in continuity with retention of the sphincter undoubtedly creates a greater technical problem than total extirpation of the rectum. Two difficulties have previously repeatedly barred a wider willingness to conserve the sphincter in suitable cases. The first is the difficulty of securing primary healing between the anal and sigmoid stumps. But this is actually no greater than in similar resections of the sigmoid proper with end-to-end suture and there should be no differentiation on this score. The second difficulty has been infection. But modern chemotherapy (a combination of anti-gas serum and drugs of the sulfonamide group used before operation, locally in the wound, and immediately thereafter) has made this risk relatively small.

At the present writing, one may not in this kind of major surgery expect the smoothness of convalescence and healing usually obtained in other types of major surgery which carry

the possibilities of primary suture and healing. But the reward in personal satisfaction and in the gratefulness of the patient is so great as to make the effort very much worthwhile.

Methods of Approach.—The method of approach for the performance of the radical operation does not materially alter the possibility of doing a resection in continuity and retaining the sphincter. The latter may be combined with any of the types of combined abdominoperineal or abdominosacral approach and technic as well as with purely posterior types of operation via the sacral or perineal route. In the light of our present knowledge of the spread of the disease, the type of operative approach should depend on whether the growth is entirely below the peritoneum, above and below, or entirely above, as well as on whether the disease is still local or has spread to the lymphatic channels.

Local Resection.—In general, it may be stated that in about half the cases that may be cured by surgery, the disease can be successfully eradicated equally as well by local excision as by total proctectomy. This should stimulate surgeons to consider a modified radical excision when conditions appear favorable. One very remarkable case, out of a number of similar cases in my own experience, is the following. In 1928, a small ulcerating carcinoma was removed by a local resection, which did not include the entire circumference of the bowel, through a sacral approach. At the present writing (thirteen-year follow-up) the patient is perfectly well in every sense of the word.

Posterior Operations.—Conservative, sufficiently radical resection of the rectum in continuity, with immediate end-to-end direct anastomosis, can be carried out from below. The method was used by Grey-Turner with considerable success in 1935, and by Wood and Wilkie earlier.¹⁵ The various steps of the operation include incision along the left border of the sacrum wall down below the coccyx, with excision of the coccyx and, if necessary, the lower segment of the sacrum; sufficient successive liberation of the posterior, lateral, and anterior aspects of the rectum with as much of its neighboring soft tissues as possible, including the rectal fatty capsule, mesorectum, and glands well into undoubtedly healthy tissue. Commonly, extension of the tumor makes opening of the peritoneal cavity necessary, which facilitates removal of the highly located retrorectal lymph nodes. The tumor-bearing portion of the rectum is sectioned with

the thermocautery between clamps and the proximal extremity is sutured to the anal stump in the orthodox manner.

One refinement of technic, which I have found has added to the success of healing by immediate union, has been a three-layer suture: one for the mucosa, one for the mesial fibrous and muscular layer, and one for whatever peritoneal layer is available plus the rectal capsule.

In very favorable cases, especially in women with a justo major type of pelvis and with an extraordinarily wide interval between the two tuberosities of the ischia, it is possible to avoid resection of the sacrum and sometimes even of the coccyx in removing these growths from below. This is the perineal type of operation. It carries the added advantage that the immediate mortality of the operation is less, that the time of convalescence and healing is much shortened, and that all the inconvenience, pain, danger of secondary hemorrhage, etc., inherent in a wound containing infected bone are eliminated.

All growths below the peritoneum that are reasonably early and mobile should be thus removed by the perineal or sacral method rather than by a combined operation, and whenever feasible with immediate anastomosis. Those that are partly above and partly below can, in many instances, be dealt with in the same way, provided that they are not too far advanced.

Combined Operations.—For the latter type of case, however, and for all operable cases in which the evidence points to advanced disease, with the exception of those growths above the reflection which can be dealt with radically by Hartmann's operation, the combined abdominoperineal or abdominosacral procedure is indicated. This permits the preliminary examination of the abdominal viscera and the determination of the extent of upward spread which is essential for this operation.

I am personally not in favor of reversing this procedure into a perineo-abdominal or sacro-abdominal operation. In my opinion, this is a technical error; it increases the technical difficulties and the risks of infection. There is distinctly more danger in operations begun by the sacral method which must be concluded by another method, necessitating moving the patient several times. Such interventions have an excessively high mortality and should be avoided. If one decides to remove a carcinoma of the rectum through a sacral or perineal approach, there should be

more than reasonable certainty that the operation can be completed by this method.

The immediate success or failure of the various methods of combined operation, the possibility of sufficiently and radically mobilizing the tumor-bearing portion of the bowel during the abdominal part of the operation so that a resection in continuity, with immediate end-to-end suture of the opposing stumps, can be adequately and safely done through the second step, or sacroperineal part of the operation, depend on the same physical factors as when the abdominal part of the operation is eliminated, i.e., adequate mobilization, a long mobile sigmoid, absence of sigmoiditis and mesosigmoiditis, adequate blood supply, skill and experience on the part of the operator. As experience accumulates, the possibility of retaining the sphincter increases without enlarging any immediate or future risk of mortality or recurrence.

Multiple-Stage Operations.—Some surgeons prefer a two-stage operation for the combined type of operation so as to establish a colostomy in advance of the excision. However, it must be said that the presence of a colostomy adds to the risk of infection during the second stage. The technical difficulties during the second stage are intensified by the adhesions following division of the colon during the primary operation. Frequently, and most important, whatever is gained by the so-called safety of multiple-stage operations is lost in the increased danger of the second or subsequent stage. In the absence of obstruction, I have had better results with a primary one-stage operation, and I reserve two- or multiple-stage operations for the obstructive type of case.

"Drawing Through" Operation.—In past years a method was proposed in which the sphincter is retained by drawing the upper segment through the stump of the anus. A very mobile upper segment is necessary for this operation. Of the two "drawing through" methods devised (Mandl and Goetze,¹² Hochenegg), the latter is best. The drawing through is done through the lower segment still retaining its mucosa intact; or a secondary drawing-through operation is done after the sphincter is divided in one plane and the entire anal stump is denuded of its mucosa.

The two methods indicated above are designed for performance through a posterior approach. It is, however, possible to make use of this technic in a combined abdominoperineal or abdominosacral operation in which the drawing-through part of the procedure is

done in the second step of the operation through the posterior incision.

The drawing-through operation is not as successful as the end-to-end suture, in my experience and in the experience of other men which I have been permitted to observe. Secondary abscesses are common; and because these are often dangerously difficult to drain properly, the operation is usually a technical failure.

Case Reports

Case 1.—F. S., a 46-year-old woman with an adenoma malignum, grade 1, of the rectum: a local excision was done through a posterior Kraske type of approach, in March, 1937. There was satisfactory healing and there is no evidence of any recurrence up to the present (four-year follow-up).

Case 2.—A. K., a 50-year-old man with an adenocarcinoma of the rectum beginning as a papillary malignancy: a local excision was done through a posterior Kraske type of approach, in October, 1925. At the end of a ten-year follow-up, there was no evidence of recurrence.

Case 3.—In a 50-year-old man, B. B., a resection of the sigmoid was done in March, 1926, a local resection of the rectum through a Kraske approach in April, 1928, and an ileocecal resection in January, 1929. In each case an adenocarcinoma of the bowel was present without involvement of any lymph nodes. Clinically each of these could be interpreted as being unrelated to the others, except that in this subject there must have been a tendency to malignant degeneration in the bowel, possibly on a papillary basis. In January, 1941 (twelve-year follow-up) this man was perfectly well without any sign of recurrence.

Case 4.—H. A., a 35-year-old woman, had an adenoma malignum, grade 1, for which a resection in continuity of the rectum was done through a Kraske type of posterior approach, in December, 1935. Healing of the entire wound was complete within three weeks. In January, 1941 (five-year follow-up) she is perfectly well with no symptom or sign of recurrence. This is one of the best immediate and permanent results I have had.

Case 5.—J. S., a 60-year-old woman, had an adenocarcinoma of the ampullary portion of the rectum upon a papillary base. A resection of the rectum with immediate suture was done in March, 1937. A small residual fistula was successfully closed by a plastic procedure about eight months later. At the present writing (four-year follow-up), the patient is perfectly well, with no evidence of any recurrence.

Case 6.—W. K., a 45-year-old man, had an infiltrating type of adenocarcinoma of the rectum with no involvement of the lymph nodes. A combined abdominosacral operation, with resection of the rectum in continuity and immediate

the possibilities of primary suture and healing. But the reward in personal satisfaction and in the gratefulness of the patient is so great as to make the effort very much worthwhile.

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Local Resection.—In general, it may be stated that in about half the cases that may be cured by surgery, the disease can be successfully eradicated equally as well by local excision as by total proctectomy. This should stimulate surgeons to consider a modified radical excision when conditions appear favorable. One very remarkable case, out of a number of similar cases in my own experience, is the following. In 1928, a small ulcerating carcinoma was removed by a local resection, which did not include the entire circumference of the bowel, through a sacral approach. At the present writing (thirteen-year follow-up) the patient is perfectly well in every sense of the word.

Posterior Operations.—Conservative, sufficiently radical resection of the rectum in continuity, with immediate end-to-end direct anastomosis, can be carried out from below. The method was used by Grey-Turner with considerable success in 1935, and by Wood and Wilkie earlier.¹⁵ The various steps of the operation include incision along the left border of the sacrum wall down below the coccyx, with excision of the coccyx and, if necessary, the lower segment of the sacrum; sufficient successive liberation of the posterior, lateral, and anterior aspects of the rectum with as much of its neighboring soft tissues as possible, including the rectal fatty capsule, mesorectum, and glands well into undoubtedly healthy tissue. Commonly, extension of the tumor makes opening of the peritoneal cavity necessary, which facilitates removal of the highly located retrorectal lymph nodes. The tumor-bearing portion of the rectum is sectioned with

the thermocautery between clamps and the proximal extremity is sutured to the anal stump in the orthodox manner.

One refinement of technic, which I have found has added to the success of healing by immediate union, has been a three-layer suture: one for the mucosa, one for the mesial fibrous and muscular layer, and one for whatever peritoneal layer is available plus the rectal capsule.

In very favorable cases, especially in women with a justo major type of pelvis and with an extraordinarily wide interval between the two tuberosities of the ischia, it is possible to avoid resection of the sacrum and sometimes even of the coccyx in removing these growths from below. This is the perineal type of operation. It carries the added advantage that the immediate mortality of the operation is less, that the time of convalescence and healing is much shortened, and that all the inconvenience, pain, danger of secondary hemorrhage, etc., inherent in a wound containing infected bone are eliminated.

All growths below the peritoneum that are reasonably early and mobile should be thus removed by the perineal or sacral method rather than by a combined operation, and whenever feasible with immediate anastomosis. Those that are partly above and partly below can, in many instances, be dealt with in the same way, provided that they are not too far advanced.

Combined Operations.—For the latter type of case, however, and for all operable cases in which the evidence points to advanced disease, with the exception of those growths above the reflection which can be dealt with radically by Hartmann's operation, the combined abdominoperineal or abdominosacral procedure is indicated. This permits the preliminary examination of the abdominal viscera and the determination of the extent of upward spread which is essential for this operation.

I am personally not in favor of reversing this procedure into a perineo-abdominal or sacro-abdominal operation. In my opinion, this is a technical error; it increases the technical difficulties and the risks of infection. There is distinctly more danger in operations begun by the sacral method which must be concluded by another method, necessitating moving the patient several times. Such interventions have an excessively high mortality and should be avoided. If one decides to remove a carcinoma of the rectum through a sacral or perineal approach, there should be

Diagnosis

CLINICOPATHOLOGIC CONFERENCES

FOURTH MEDICAL DIVISION OF BELLEVUE HOSPITAL

Conducted by: Dr. Max Trubek

Date: May 7, 1942

History

DR. FRANK J. RUMMEL: This was the first admission to Bellevue of a 39-year-old white man who had no knowledge of previous illness until three years ago, when he was told that he had high blood pressure and albuminuria. At that time he had nocturia (two or three times) but felt fairly well until two years ago, when he had an attack of migratory polyarthritis lasting about three weeks, for which he was treated in another hospital. There he was told he had a "weak heart." Tonsillectomy was done soon afterward. During the past two years he had dyspnea on exertion and occasional palpitation. About one week prior to admission the patient developed an upper respiratory infection with sore throat. Five days before admission, he began to experience pains and swelling in the small joints of both feet, which later involved the right shoulder and the right hand as well. The arthralgia was associated with elevation of temperature and malaise. The past history included scarlet fever and influenza in childhood.

On physical examination, the patient was a well-developed and well-nourished white man, not appearing ill at the time of admission. There was no dyspnea, orthopnea, cyanosis, or clubbing of the fingers. The temperature was 105 F.; pulse, 95 per minute; respiratory rate, 20 per minute; and blood pressure, 160/100. The head and scalp were negative. The pupils were round, regular, and equal and reacted to light and accommodation. The extra-ocular muscles were normal. Examination of the ears and nose was negative; the pharynx was injected. There was no glandular enlargement, and the neck veins were not distended. On examination of the lungs, a few fine rales were noted at both bases posteriorly. The heart was enlarged to the left and right; there was roughening of the apical first sound, and the second pulmonic sound was very loud and snapping. There was an irregular rhythm,

as of auricular fibrillation. Liver dullness was percussible three finger breadths below the right costal margin. The kidneys and spleen were not palpable. There was moderate swelling and tenderness of ankles, knees, and hands. The reflexes were physiologic.

The patient was treated with aspirin, 1 Gm. every four hours. On the day following admission, the patient's temperature fell from 105 F. to 98 F., but thereafter increased to an average of about 100.5 F. His pulse rate increased, and weakness and dyspnea became prominent. On March 3, 1942, the eleventh day of his hospital stay, a double mitral murmur with a presystolic thrill was noted. He began to have precordial pain and discomfort and increased dyspnea. Dullness and rales were present over the left lower lobe; on April 3, flatness and frank bronchial breathing were found over the left posterior chest, with moist rales at both bases. The diagnosis of left lower lobe lobar pneumonia was made, and oral sulfadiazine therapy was begun.

The temperature did not respond to sulfadiazine (sulfadiazine level was 16 mg.), and the drug was discontinued on April 6, after three days, and digitalization was begun. At this time the patient disclosed that he had coughed up several small pieces of blood during his first three days in the hospital. The sulfadiazine level in the blood dropped to 6.8 mg. On April 7, sulfadiazine was resumed, and thoracentesis was done, with the removal of 40 cc. of cloudy yellow fluid containing 675 white blood cells with 40 per cent polymorphonuclears and 60 per cent lymphocytes. Culture of this fluid was negative. On April 9, sulfadiazine and digitalis were discontinued. At this time the pulse was regular, of fairly good quality, but very rapid. The lung signs were the same as on previous examination. On April 10, hematuria was noted for the first time. On that day thoracentesis was repeated, and 450 cc. of serosanguineous fluid was withdrawn. The specific gravity of the chest fluid was 1.017. On April 11, the temperature rose to 103.8 F.; the pulse was irregular (coupling) and of very poor quality.

end-to-end anastomosis, was done in October, 1936. In January, 1941 (four and one-half year follow-up), he was well and free from recurrence. He has a small residual fistula, undoubtedly due to stricture formation, but refuses to permit the necessary plastic operation which might close the fistula.

Case 7.—D. R., a woman in the fourth decade of life, had a carcinoma of the rectosigmoid for which a combined abdominosacral resection of the rectum in continuity, with immediate end-to-end suture, was done in February, 1936. In December, 1936, a small recurrence at the site of the anastomosis was excised, again with immediate suture through a posterior approach. In January, 1941 (five-year follow-up), the patient was well, with no sign of recurrence. A pin-point residual fistula is present in the posterior wound, which discharges nothing, does not inconvenience her in the least, and for which nothing should be done.

Case 8.—B. S., a 48-year-old woman, had an adenocarcinoma of the rectosigmoid just at the peritoneal reflection. A combined abdominosacral resection of the rectum in continuity, with immediate end-to-end suture, was done in March, 1935, after a preliminary cecostomy had previ-

ously been established. Postoperative stricture at the suture line was treated by dilatation and later by division of the stricture. Complete healing then followed. In September, 1936, the cecostomy was closed successfully. At present, the patient is free from recurrence and the bowel evacuations are normal (six-year follow-up).

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WALKING AIDS MENTAL HEALTH

A daily walk, aside from conferring many physical benefits, actually improves the mental condition tremendously. E. A. Conklin, Norwich, New York, says in the May issue of *Hygeia*. He points out that "If you are inclined to be melancholy when you awake in the morning, a walk will help chase away your depression. If you have deep-rooted worries on your mind, walking will give your brain a temporary respite and allow you to face your difficulties a little later on with renewed vitality.

"If you haven't walked to amount to anything since childhood, you should exercise a little care in the preliminary steps of becoming an expert hiker. . . . For a beginner, a mile is sufficient. The experienced walker can gracefully stand four times as much. Walkers find that by gradually increasing the scope of their walk at the rate of an additional half mile each week, they are soon able to look a five-mile hike in the face without wincing."

Posture, Mr. Conklin advises, is of greatest importance in getting the maximum in pleasure and profit from the daily walk. "Watch yourself in the store windows as you stride along," he suggests. "You miss half the joys life can offer you if your head is up in the clouds or directed to the street beneath your feet. Try being comfortably erect, watching and checking on yourself at frequent intervals. . . ."

If possible, the author says, walking expeditions should be made in the early morning. They

tend to stimulate the jaded appetite, and after several weeks a feeling of increased well-being will become apparent. The average person has no difficulty in completing a three or four mile walking tour in little more than an hour; thus by rising slightly earlier than usual, one can reach home in time for a satisfactory breakfast.

"If it is impossible to walk in the early morning hours," Mr. Conklin continues, "the next best walking time is late afternoon, when the sun is fading and its heat is no longer severe. . . . The important thing is to set oneself in motion at a regular time each day. Regular hours are essential until walking becomes a fixed habit, unbreakable and enjoyable.

"Every Saturday or Sunday afternoon may be made a family hiking occasion, with the youngsters and the rest of the family journeying to a not too distant park or mountain. A picnic lunch packed on the back will add to the enjoyment of such week-end festivities. Boys and girls who learn to walk while young will not dread it when approaching manhood or womanhood. No matter how enthusiastic a sports fan your youngster is, he may be expected at first to shy away from anything as simple as walking.

"On your expeditions you will notice many curiosities of nature, some new, others familiar, but all keeping your mind attentive and free of the daily wear and tear so common in our complex modern lives. By all means, take a walk—today and every day!"

Diagnosis

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The patient became comatose and very dyspneic. The heart sounds were well heard. Sodium sulfathiazole was given, without subsequent improvement, and the patient died the following day.

Laboratory Data.—Urinalysis: color, amber; specific gravity, 1.010; reaction, acid; 3 plus albumin, no glucose; microscopic examination revealed granular and hyaline casts and many white blood cells. Urinalysis (April 11): bloody; specific gravity, 1.020; 2 plus albumin, no glucose; microscopic examination showed the urine to be loaded with red blood cells and white blood cells. The white blood count was 11,000, with 83 per cent polymorphonuclears and 17 per cent lymphocytes. The red blood count was 4,100,000, with 80 per cent hemoglobin. On March 22, the erythrocyte sedimentation rate was 78 mm. per hour, and on April 3 it was 88 mm. per hour. The blood cultures were repeatedly negative. The blood nonprotein nitrogen was 37. An electrocardiogram, on March 30, showed rapid sinus rhythm, partial auriculoventricular block, and marked acute myocardial changes. The PR interval was 0.28 second. A second electrocardiogram, taken on April 6, showed rapid sinus rhythm with marked partial auriculoventricular block. The PR interval was 0.32 second, and the QRS interval was 0.08 second. Another electrocardiogram, on April 10, showed sinus tachycardia with partial block, as before; right electrical axis deviation; PR interval 0.24 second and QRS interval 0.10 second. A roentgenogram of the chest, taken on April 3, showed the heart to be markedly enlarged in all diameters, with accentuation of the pulmonic conus and straightening of the left cardiac border. There were congestive changes of both lung fields, with an area of pleural effusion on the left, extending to the level of the second anterior rib; and an area of pneumonitis at the right base.

Discussion

DR. MAX TRUBEK: The patient had his first knowledge of any illness three years ago, when he was told of high blood pressure and albuminuria. He has had increased urinary frequency, with occasional reddish urine (according to admission history), as well as nocturia (two or three times).

His present illness began with the classical manifestations of recurrent acute rheumatic fever, sore throat, and running nose about ten days prior to admission, which improved. But five days before admission he developed

multiple migratory swollen, painful joints, and there was an elevation of temperature.

Two years ago the patient had a similar attack, which was diagnosed as rheumatic fever and rheumatic heart disease. There had been dyspnea with extra effort, and there had been a cough, with thick, occasionally bloody sputum.

The patient had scarlet fever as a child, and tonsillectomy was done one year ago.

We shall discuss the pathologic possibilities dividing the major illness into the chief categories of organic involvement:

1. *Cardiac.*—We have every reason to expect acute and chronic rheumatic carditis. There are the double mitral murmur, with evidence of pulmonary and hepatic congestive failure, the persistently elevated erythrocyte sedimentation rate, the continuous spiking fever, and the electrocardiographic finding of partial auriculoventricular block, with PR interval up to 0.32 second—these, aside from other alterations of active myocardial damage. The chest x-ray seems to confirm a mitral cardiac configuration.

Could we expect subacute bacterial endocarditis superimposed? It is very unusual to have swollen, red joints during subacute bacterial endocarditis. Arthralgias are common. Very occasionally, the two diseases coexist. No petechiae were noted. The spleen could not be felt, and all blood cultures were negative. The mitral murmur was seemingly accentuated during the hospital stay, and there were renal complications—somewhat unusual for rheumatic fever alone. There was no incidental improvement during chemotherapy.

2. *Kidneys.*—There was a definite history of hypertension preceding the rheumatic fever. At least, the patient knew nothing of a murmur at that examination. The hospital urine specific gravities were recorded between 1.010 and 1.020—seemingly at variance with any diffuse glomerulonephritis. Granular and hyaline casts were a constant finding. There were always many white blood cells, occasional red blood cells, and in one instance the urine was loaded with red blood cells. The initial blood pressure was 160/100, a preterminal one was 140/68. None other was recorded. The urinary abnormalities were present on admission and preceded the use of sulfadiazine. It was, however, recorded that the patient attended the Third Medical Division Clinic for one year and was ordered to take one white tablet daily—possibly a prophylactic dose of a sulfonamide? There

was only slight anemia. A chronic pyonephritis might account for the picture and explain particularly the large number of white blood cells and the absence of evidence of widespread glomerulitis. The final appearance of blood might be due to renal infarction, especially since there was the clinical record of inconstant auricular fibrillation, with possible auricular mural thrombi as the source. Without evidence, we cannot postulate an embolic glomerulonephritis. Active rheumatic fever can occasionally cause a widespread renal arteriolitis and glomerulitis, but this would not account for the three years' or more renal history, unless we called it latent, and plus an acute glomerulonephritis.

3. *Lungs*.—On admission, there were fine moist rales at both bases and the second pulmonic sound was markedly accentuated—confirmatory evidence of pulmonary congestive failure. During the second week, the patient appeared more acutely dyspneic, and signs at the left base were interpreted as those of consolidation. There was no alteration in the continued spiking temperature, which was present from the time of admission. There was no benefit from adequate chemotherapy. Nearly one-half liter of clear fluid was subsequently withdrawn from this area, with the characteristics of a nonpurulent exudate. Compression breathing could have simulated consolidation; the source of the fluid may have been from an active rheumatic involvement of the pleura. Moist rales appeared throughout both lungs. The white blood count never exceeded 12,000. There was adequate evidence of pulmonary congestive failure, and with the story of blood in the sputum, there is the possibility of a chronic pulmonary stasis with pulmonary induration. This would rather limit the "rheumatic" involvement to the serous surfaces of the lungs.

DR. HERMAN O. MOSENTHAL: There was a distinct diastolic murmur, which was not recorded on physical examination. At the time, I interpreted this as indicating an aortic insufficiency. Particularly noteworthy was the accentuation of the second pulmonic sound, which gave the sensation of a diastolic shock on palpation, and which was so loud that it could be heard at a little distance from the chest without the stethoscope or the ear being applied to the chest. The lesions in the lung were somewhat of a puzzle to us. The signs were those of a consolidation in the left lower lobe. Since the administration of sulfadiazine did not lower the temperature and bloody sputum developed, I was of the

opinion that there was an infarct of the lung. A suggestion made by Dr. Eleanor Galenson (senior intern) that this was a "rheumatic pneumonia" deserves consideration. From the urinalysis, it was impossible to make any final judgment on the kidneys. The hematuria might have been significant of passive congestion, acute nephritis, or infarcts of the kidneys. The urinalysis of March 11, with a specific gravity of 1.020 and the appearance of hematuria, makes any one of these three diagnoses possible. The preceding albuminuria without hematuria was in all probability a febrile albuminuria and nothing more than that. The subsequent occurrence of hematuria indicated some further pathology.

DR. HARRY A. SOLOMON: Looking at the x-ray plate, one can infer the presence of both aortic and mitral lesions because of the left ventricular enlargement. However, hypertension, known to exist in this case, was probably the cause of the aortic configuration of the heart. The clinical picture is clearly one of rheumatic fever, and because of the signs in the left chest, suggestive of Ewart's sign, pericardial effusion should be suspected, or at least the presence of "rheumatic pneumonia" should be considered also. The fact that the fever did not respond to the sulfa group is a strong diagnostic point against the presence of bacterial endocarditis. That both active rheumatic carditis and subacute bacterial endocarditis can coexist is well known. The bacterial infection usually begins insidiously. The renal picture can be explained on the basis of glomerulonephritis, which is a rare complication of rheumatic fever, but in this case should favor the presence of subacute bacterial endocarditis.

DR. MAX TRUBEK: There is no real evidence of aortic involvement. The second pulmonic sound is not usually accentuated unless there is pulmonary involvement or pulmonary congestive failure.

DR. ARNOLD KOFFLER: Essentially, the production of hematuria may be based on two possibilities: first, the result of chemotherapy, in which case crystals should be present in the urine; and, secondly, the possibility of infarction as the result of subacute bacterial endocarditis.

DR. MAX TRUBEK: This man had casts in his urine; I believe the kidney pathology to be more than a sulfadiazine reaction.

Pathology

Gross Pathology.—DR. ROGER W. STEINHARDT: At autopsy, the heart weighed 580

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Spleen: old and recent infarcts, with septic splenitis.

Kidneys: recent infarct, left with arterial nephrosclerosis and sclerotic infarcts of the kidneys.

Liver: chronic passive congestion.

Lungs: chronic passive congestion. Intra-alveolar hemorrhage. Minimal hemorrhagic pleural effusion, left.

BABE RUTH AND THE DOCTORS

The Great Bambino on his return from the West Coast offered the perfect example of the average man who has just been delivered miraculously from a critical illness. "I'm smoking my usual quota," he told reporters. "Ten or fifteen cigars a day." Actually, at the moment he was abstaining from cigars. When he arrived he was smoking instead a 40-year-old pipe, given to him by a Hollywood friend.

In other respects, he had been taking it easy. Before going to the Coast to make a movie on Lou Gehrig's life, he had been ordered to curtail his golfing, bowling, and smoking. So he cut down on the golfing and bowling—being, presumably, pretty busy with the picture anyway—and played only six games of golf while out there, and bowled six times.

In other words, the Babe had cut out the things which, if done temperately, might possibly have been beneficial to him, while continuing furiously the smoking, which might conceivably—although here we run into sharply contradictory evidence—shorten his life. "I can't seem to stop smoking," he says, while proudly adding, "but anyway I'm not drinking."

Example of the Doctors.—There is something plaintively appealing about the great home-run slugger being subject to the weaknesses of the ordinary man. Ruth is in his late forties. He has become accustomed to his cigar and, to make a rough estimate, feels more comfortable with one in his mouth about half of his waking hours. Probably he has been spoken to quite sharply by the doctors, his family, and his friends about this matter of smoking.

Usually the conversation with the doctor goes something like this: "Do you smoke much?" "Well, quite a good deal." "Notice any ill effects?" "No-o-o, not particularly." "What do you smoke?" "Cigars." The doctor pauses. "Well, you'd better cut them out."

As the patient is ushered out, the doctor usually lights up a cigarette himself and, not infrequently, with generous absent-mindedness, offers the patient a smoke himself. The patient, being

a cigar smoker, is not greatly tempted. He may even wait until he gets to the next corner before he reaches into his coat pocket and starts violating the doctor's orders again.

When the Adviser Gets Old.—The doctors have only themselves to blame if their patients are, to a considerable extent, puzzled by the contradictory evidence between their prescriptions and their own conduct. Many smoke and some drink—and rule against these for their patients, or for some of them.

If the doctor is a young man, he plays a fast and strenuous game of tennis and squash racquets, and advises his patients to get more exercise. Here he takes on the mantle of consistency. If the pressing demands of his practice finally, as he grows into middle age, prevent the doctor from getting to the courts consistently, he begins to give up the game. He now finds that when he does occasionally play it is a bit too strenuous, and begins to warn his middle-aged patients that they had better take up chess or bridge for exercise.

Long Life and Sports.—This is not said by way of being critical of the doctors. A physician would hardly be worthy of his profession if he did not consistently examine himself as well as his patients to try to discover the ways of health. If he finds that smoking and drinking in moderation do not seem to affect himself adversely, or too adversely, he indulges. If certain sports seem to him, at forty, to be too much of a strain, he would be less than human if he didn't measure patients by the standards applied to himself.

Yet people who enjoy their tobacco and their sports will probably rest their own case—human nature being what it is—on Dr. Logan Clendenning's thesis. He, after discussing tobacco, exercise, and longevity, says: "An impartial examination of all the means yet proposed to prevent early death or lengthen life leaves me with the conviction that nothing anybody does to himself after he is born makes more than a few hours' difference at the most."—*Reprinted with permission from The New York Times*

State medicine, in my opinion, bears disaster for doctor and patient alike. You cannot pipe out medicine to the community as you do with steam heat.—Dr. A. J. Cronin, *English author of The Citadel, Keys of the Kingdom*

No physician, in so far as he is a physician, considers his own good in what he prescribes; for the true physician is also a ruler having the human body as a subject and is not a mere money-maker.—Plato

Gm. It was covered with layers of shaggy fibrin which completely obliterated the pericardial sac. All chambers of the heart were dilated, and the myocardium was everywhere hypertrophied. No thrombi were seen in the auricles or their appendages. The mitral valve was stenotic. This stenosis was due chiefly to a large papillary-like vegetation on thickened leaflets. A great part of the vegetation was calcified, and a culture from this vegetation grew *Streptococcus viridans*. The chordae tendineae were fused, shortened, and thickened. The leaflets of the aortic and tricuspid valves showed moderate rolling of the free edges, and tiny verrucae could be seen. The coronaries were natural. About 40 cc. of serosanguineous fluid was found in the left chest. The lungs themselves were deeply congested but nowhere consolidated. No infarcts were seen. Infarcts were found, however, both in the spleen, which weighed 380 Gm., and in the kidneys. The kidneys themselves also presented a deeply scarred surface and some thickening of the pelvis, probably indicative of an old pyelonephritis. The liver showed chronic passive congestion.

Discussion

DR. MAX-WILHELM JOHANNSEN: At the time of necropsy, the examination of the heart showed this very large sclerotic and partially calcified lesion to be situated at the junction of the posterior and anterior mitral leaflets. Several verrucae, to my mind indistinguishable from those frequently seen on calcified plaques, were noted. Only after seeing the infarcts of the kidney and spleen did we make a diagnosis of a vegetative bacterial endocarditis superimposed on this sclerotic calcified plaque. As you all know, subacute bacterial endocarditis is usually superimposed on an old rheumatic valvulitis. As a matter of fact, Dr. Von Glahn has shown that 45 per cent of the patients coming to necropsy and presenting subacute bacterial endocarditis caused by *Str. viridans* have a "smoldering" rheumatic activity. It was thought that subacute bacterial endocarditis does not, as a rule, occur in acute rheumatic valvulitis. In my experience, that is not quite correct. In the last two years I have seen 4 cases in which this bacterial endocarditis was superimposed on an acute rheumatic valvulitis. It is true that a patient with fibrillation rarely develops subacute bacterial endocarditis. I believe that of this sequela only 4 authentic cases are reported in the literature. Likewise, a tight mitral stenosis is a protection

against the development of endocarditis lenta.

Microscopic examination showed a typical chronic active rheumatic pancarditis with involvement of all four sets of valves. Aschoff cells and even Aschoff bodies were seen in the myocardium, deep in the substance of the various leaflets, where, in addition, palisading of Aschoff cells was noted. Many old and recent blood vessels were present in the ring areas. Inflammatory cells were particularly abundant in the leaflets, and were present to a lesser degree in the myocardium. The epicardium showed a very distinct thick layer of fibrin, with marked vascularization of the epicardium proper. Section through the calcified plaque of the mitral leaflet showed, in addition to the obvious changes caused by sclerosis and calcification, many lymphocytes and polymorphonuclears in poorly outlined areas. Some necrosis was present. A gram-stain was not done because bacteriologic studies of this area revealed a pure culture of *Str. viridans*. The lungs did not reveal any findings that could be identified as specific for a rheumatic pneumonia, such as a rheumatic arteritis and the presence of Aschoff cells and Aschoff bodies in the interstitial tissues. The outstanding features were marked acute congestion and intra-alveolar hemorrhage superimposed on chronic passive congestion. Likewise, the pleura was free of any rheumatic or inflammatory manifestation. I am, therefore, unable to explain the left-sided pleural effusion. The spleen showed recent and fresh infarcts, and in the white pulp an abundance of polymorphonuclears was seen. The liver showed chronic passive congestion. The kidneys showed, in addition to the obvious infarcts, many large horseshoe-shaped depressed areas and a thickened, slightly injected pelvis. This latter finding is rather typical of a chronic pyelonephritis, which was substantiated by the microscopic finding of foci of scarring of the parenchymal and interstitial tissue and dilatation of many tubules which were filled with an eosinophilic staining, homogeneous acellular material. The pelvis was thickened and showed aggregations of lymphocytes.

Anatomic Diagnosis

Rheumatic pancarditis with superimposed subacute bacterial endocarditis.

Mitral stenosis.

Mitral insufficiency.

Generalized cardiac hypertrophy and dilatation.

Spleen: old and recent infarcts, with septic splenitis.

Kidneys: recent infarct, left with arterial nephrosclerosis and sclerotic infarcts of the kidneys.

Liver: chronic passive congestion.

Lungs: chronic passive congestion. Intralveolar hemorrhage. Minimal hemorrhagic pleural effusion, left.

BABE RUTH AND THE DOCTORS

The Great Bambino on his return from the West Coast offered the perfect example of the average man who has just been delivered miraculously from a critical illness. "I'm smoking my usual quota," he told reporters. "Ten or fifteen cigars a day." Actually, at the moment he was abstaining from cigars. When he arrived he was smoking instead a 40-year-old pipe, given to him by a Hollywood friend.

In other respects, he had been taking it easy. Before going to the Coast to make a movie on Lou Gehrig's life, he had been ordered to curtail his golfing, bowling, and smoking. So he cut down on the golfing and bowling—being, presumably, pretty busy with the picture anyway—and played only six games of golf while out there, and bowled six times.

In other words, the Babe had cut out the things which, if done temperately, might possibly have been beneficial to him, while continuing furiously the smoking, which might conceivably—although here we run into sharply contradictory evidence—shorten his life. "I can't seem to stop smoking," he says, while proudly adding, "but anyway I'm not drinking."

Example of the Doctors.—There is something plaintively appealing about the great home-run slugger being subject to the weaknesses of the ordinary man. Ruth is in his late forties. He has become accustomed to his cigar and, to make a rough estimate, feels more comfortable with one in his mouth about half of his waking hours. Probably he has been spoken to quite sharply by the doctors, his family, and his friends about this matter of smoking.

Usually the conversation with the doctor goes something like this: "Do you smoke much?" "Well, quite a good deal." "Notice any ill effects?" "No-o-o, not particularly." "What do you smoke?" "Cigars." The doctor pauses. "Well, you'd better cut them out."

As the patient is ushered out, the doctor usually lights up a cigarette himself and, not infrequently, with generous absent-mindedness, offers the patient a smoke himself. The patient, being

a cigar smoker, is not greatly tempted. He may even wait until he gets to the next corner before he reaches into his coat pocket and starts violating the doctor's orders again.

When the Adviser Gets Old.—The doctors have only themselves to blame if their patients are, to a considerable extent, puzzled by the contradictory evidence between their prescriptions and their own conduct. Many smoke and some drink—and rule against these for their patients, or for some of them.

If the doctor is a young man, he plays a fast and strenuous game of tennis and squash racquets, and advises his patients to get more exercise. Here he takes on the mantle of consistency. If the pressing demands of his practice finally, as he grows into middle age, prevent the doctor from getting to the courts consistently, he begins to give up the game. He now finds that when he does occasionally play it is a bit too strenuous, and begins to warn his middle-aged patients that they had better take up chess or bridge for exercise.

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Yet people who enjoy their tobacco and their sports will probably rest their own case—human nature being what it is—on the basis of the doctor's thesis. He, after all, is the one who has made a study of the effects of exercise and longevity, and has proposed to prevent early death or lengthen life leaves me with the conviction that nothing anybody does to himself after he is born makes more than a few hours' difference at the most."—*Reprinted with permission from The New York Times*

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Medical Preparedness

Recruiting of Medical Officers

TO STEP up the entrance of medical officers into the United States Army, and to shorten the process, there have been set up in New York State seven "Medical Officers' Recruiting Boards." All physicians below the age of forty-five who are citizens can avoid delays and clear up questions by visits to the nearest of these offices.

Information comes that for those receiving commissions who need time to settle their home affairs, these boards have the power to recommend to the Surgeon General a reasonable period before they are called into service (even, on exception, up to ninety days).

The Boards are located as follows:

City	Address	Recruiting Officer
Albany	Federal Building	Major E. K. Reid
Binghamton	Federal Building	Major E. K. Reid
Buffalo	Federal Building	Major E. K. Reid
New York	39 Whitehall Street	Captain J. J. McMahon
Rochester	Federal Building	Major E. K. Reid
Syracuse	Federal Building	Major E. K. Reid
Utica	Federal Building	Major E. K. Reid

Council Committee on Medical Preparedness

Deaths of New York State Physicians

Name	Age	Medical School	Date of Death	Residence
Frederick Ackerman	62	Univ. & Bell.	March 18	Manhattan
Emil C. Bernauer	72	N. Y. Univ.	May 25	Brooklyn
Samuel A. Blauner	60	P. & S. N. Y.	May 17	Manhattan
Joseph Bondi	69	Vienna	April 29	Manhattan
Samuel M. Clurman	74	Univ. & Bell.	March	Bronx
David B. Delavan	92	P. & S. N. Y.	May 23	Manhattan
Max R. Dinkelspiel	66	Jefferson	March 13	Manhattan
Charles H. Evans	59	Syracuse	May 10	Norfolk
Milton A. Harrington	58	Toronto	May 27	Napanoch
Anton Heger	71	Virginia	May	Astoria
George P. Jessup	77	P. & S. N. Y.	May 18	New Dorp
Carl H. Mueller	52	Cornell	May 21	Brooklyn
Benjamin Woloshin	48	L. I. C. Hospital	May 26	Bronx

Medical Society of the State of New York

Minutes of the House of Delegates—April 27–28, 1942

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House of Delegates

Minutes of the Annual Meeting

April 27 and 28, 1942

THE 136th Annual Meeting of the House of Delegates of the Medical Society of the State of New York was held at the Waldorf-Astoria Hotel, New York City, on Monday, April 27, 1942, at 10:10 A.M.: Dr. Louis H. Bauer speaker; Dr. William Hale, vice-speaker, Dr. Peter Irving, secretary; Dr. Edward C. Podvin, assistant secretary.

SPEAKER BAUER: The House will be in order Ladies and Gentlemen, The National Anthem! The delegates sang "The Star-Spangled Banner". . . .

Section 1

Report of the Reference Committee on Credentials

SPEAKER BAUER: The chair recognizes Dr Peter Irving, chairman of the Reference Committee on Credentials.

SECRETARY IRVING: Mr Speaker, there are no disputed delegates All who have been seated, and are on our rolls, are entitled to vote

SPEAKER BAUER: I declare the 136th Session of the House of Delegates to the Medical Society of the State of New York open for the transaction of business

SECRETARY IRVING: There is a quorum present.

SPEAKER BAUER: The secretary reports a quorum present. It has been customary in previous years to call the roll by counties, which is purely for the purpose of determining whether or not a quorum is present. Unless there is objection, we will take the secretary's word for it, and save time. Hearing none, it is so ordered

Section 2

Approval of the Minutes of the 1941 Session

SPEAKER BAUER: The first order of business is the approval and adoption of the minutes of the 1941 Session of the House.

SECRETARY IRVING: I move you that the reading of the minutes of the 1941 Session of the House be dispensed with, and that they be approved and adopted as published in the June 15 and July 1 issues of the NEW YORK STATE JOURNAL OF MEDICINE.

DR LOUIS A. VAN KLEECK, *Nassau* I second that motion.

. . . There being no discussion, the motion was put to a vote, and was unanimously carried. . . .

SPEAKER BAUER: I will ask the secretary to read the Reference Committee appointments

Section 3

Reference Committees

SECRETARY IRVING: The Reference Committees of the 1942 House of Delegates are as follows:

REFERENCE COMMITTEE ON CREDENTIALS

Peter Irving, *chairman*, New York County
Archibald K. Benedict, Chenango County
Lyman C. Lewis, Allegany County
Charles F. McCarty, Kings County
Edward C. Podvin, Bronx County

REFERENCE COMMITTEE ON REPORT OF PRESIDENT

Carlton D. Wertz, *chairman*, Erie County
Stephen H. Curtis, Rensselaer County
John S. Kenney, New York County
Dan Mellen, Oneida County
Herbert B. Smith, Steuben County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART I

Postgraduate Education

Albert F. R. Andresen, *chairman*, Kings County
Conrad Berens, New York County
Corbet S. Johnson, Tioga County
Charles A. Prudhon, Jefferson County
Daniel R. Reilly, Cortland County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART II

Public Health Activities
4-H Club and Youth Activities
War Medicine and Surgery
Venereal Disease Control
Tuberculosis Conference Committee
Deaf and Hard of Hearing

Peter J. Di Natale, *chairman*, Genesee County
J. Lewis Amster, Bronx County
Robert Brittain, Delaware County
Morris Maslon, Warren County
Rudolph D. Moffett, New York County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART III

School Health Program

Leo F. Schiff, *chairman*, Clinton County
John D. Carroll, Rensselaer County
Thomas M. D'Angelo, Queens County
Louis A. Friedman, Bronx County
Ralph Sheldon, Wayne County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART IV

Publications, Journal, Director, and Medical Publicity

Andrew A. Eggston, *chairman*, Westchester County
Charles A. Anderson, Kings County
Albert A. Cinelli, New York County
James Greenough, Otsego County
William A. MacVay, Monroe County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART V

Nonprofit Medical Expense Insurance

F. Leslie Sullivan, *chairman*, Schenectady County
Albert A. Gartner, Erie County
H. P. Mencken, Queens County
William B. Rawls, New York County
Andrew Sloan, Oneida County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART VI

Medical Relief

Roy B. Henline, *chairman*, New York County
George A. Burgin, Herkimer County
Maurice J. Dattelbaum, Kings County
Guy S. Philbrick, Niagara County
Bernard S. Strait, Yates County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART VII:

Legislation

Walter P. Anderson, *chairman*, New York County
 Eugene H. Coon, Nassau County
 B. Wallace Hamilton, New York County
 Leo E. Reimann, Cattaraugus County
 Moses A. Stivers, Orange County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART VIII:

Medical Preparedness

Frederic W. Holcomb, *chairman*, Ulster County
 Emil Koffler, Bronx County
 Albert G. Swift, Onondaga County
 Arthur F. Heyl, Westchester County
 Thomas B. Wood, Kings County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART IX

Workmen's Compensation

Coburn A. L. Campbell, *chairman*, Suffolk County
 Robert F. Barber, Kings County
 Milton S. Lloyd, Richmond County
 Charles L. Pope, Broome County
 William W. Street, Onondaga County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART X.

Public Relations and Economics

Disposition of Registration Fees

Fines for Late Registration

Health and Accident Insurance for Interns

Medical Examination of Motor Vehicle Drivers

Physical Examination for Federal Civil Service

Recommendations for the Improvement of the Coroner System in New York State. Better Post-mortem Examinations

Homer L. Nelms, *chairman*, Albany County
 John J. Buettner, Onondaga County
 Walter D. Ludlum, Kings County
 Henry W. Miller, Putnam County
 Romeo Roberto, Westchester County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART XI

Special Matters

State Society Assessments and Service in Armed Forces

Financial Aid to County Societies for Medical Preparedness Work

Woman's Auxiliary

Continuation of Special Committees

Nominations for State Positions

Belated Bills

Proposition for the Economical Use of Medical Personnel

Protest Against Non-Inclusion in Medical Directory
 Committee for Interpretation of Medical Ethics
 1945 Convention of American Medical Association

Harry S. Bull, *chairman*, Cayuga County
 Emily D. Barringer, New York County
 Kenneth F. Bott, Greene County
 Thurber LeWin, Erie County
 G. Scott Towne, Saratoga County

REFERENCE COMMITTEE ON REPORT OF COUNCIL—PART XII

Malpractice Defense and Insurance

Legal Counsel

Moses H. Krakow, *chairman*, Bronx County
 Aaron Sobel, Dutchess County
 Joseph P. Henry, Monroe County
 John B. Lauricella, New York County
 Henry S. Martin, Wyoming County

There is no report of the Censors this year, we are glad to say.

REFERENCE COMMITTEE ON REPORTS OF THE SECRETARY AND DISTRICT BRANCHES

Stephen R. Monteith, *chairman*, Rockland County
 William G. Cooper, St. Lawrence County
 Edwin A. Griffin, Kings County
 Leon M. Kysor, Steuben County
 Denver M. Vickers, Washington County

REFERENCE COMMITTEE ON REPORTS OF THE TREASURER AND BOARD OF TRUSTEES

William Klein, *chairman*, Bronx County
 Clifford F. Leet, Chemung County
 Joseph C. O'Gorman, Erie County
 Stanley C. Pettit, Richmond County
 Walter L. Lynn, Queens County

REFERENCE COMMITTEE ON NEW BUSINESS A

Leo F. Simpson, *chairman*, Monroe County
 David W. Beard, Schoharie County
 DeForest W. Buckmaster, Chautauqua County
 Thomas A. McGoldrick, Kings County
 John L. Sengstack, Suffolk County

REFERENCE COMMITTEE ON NEW BUSINESS B

John J. Masterson, *chairman*, Kings County
 W. Guernsey Frey, Jr., Queens County
 Raymond F. Kircher, Albany County
 Charles C. Trembley, Franklin County
 Louis A. Van Kleeck, Nassau County

REFERENCE COMMITTEE ON NEW BUSINESS C

Harry C. Guess, *chairman*, Erie County
 John B. D'Albora, Kings County
 John L. Edwards, Columbia County
 Alfred M. Hellman, New York County
 John F. Kelley, Oneida County

Mr. Speaker, I move you that the reports of the officers, council, trustees, legal counsel, and district branches that have been published and distributed to the members of the House be referred to the respective reference committees without reading.

SPEAKER BAUER: Is there any objection to that being done?

.... There was no dissent.

SPEAKER BAUER: These reports were printed in the April 1 JOURNAL, and I think all the members of the House have had a reprint of those reports, so you are familiar with them. There being no objection, they will be so referred.

The reference committee tables are located in the balcony, and there are stenographers in the back of the room and on the balcony who will take your reports and resolutions, which must be submitted in quadruplicate. I should like to ask all officers of the Society and all Council Committee members to hold themselves in readiness to confer with the Reference Committees on the particular matters concerned, should their presence be desired.

Section 4 (See 30, 78)

Supplementary Report of the President

SPEAKER BAUER: Dr. Bandler, will you be a committee of one to escort the president of the Medical Society of the State of New York to the platform?

(The delegates arose and applauded as Dr. Clarence G. Bandler escorted Dr. Samuel J. Kopetzky to the platform.)

SPEAKER BAUER: It gives me great pleasure to welcome you here as president of the Medical Society of the State of New York.

Dr. Kopetzky certainly needs no introduction to this organization. He was speaker of this House, I believe, for five years, and for the past year has been your head. Gentlemen, the president of the Medical Society of the State of New York! (Applause)

PRESIDENT KOPETZKY: Mr. Speaker and Gentlemen of the House: To set an example, I have no supplementary report. To set another example, my remarks will be brief.

It is twenty-five years since this House of Delegates assembled during a war time. We are meeting under extraordinary circumstances. Let us see to it that the liberty and the four freedoms for which we are fighting are none of them lost in the planning for the successful outcome of this war.

You will remember that last year before this House I laid down a formula which has been my guiding principle during the period that I have had the honor and the privilege to head your organization. Again reiterating that principle, it is that all plans, as far as it is possible to conceive them, should be so conceived that with the demobilization of the Armed Forces and the cessation or stoppage of the emergency these procedures can also be demobilized.

I now wear the livery of our Uncle Sam. I take it that the time will not be too far distant but that many of you, too, will wear this honored livery. This morning I had official word of a new grouping as to the availability of doctors, and also as to their being essential. There is to be a group who will do temporary duty in the face of an instant emergency in a community. All doctors may be mobilized under that classification, to be centered where such emergency is acute and they are needed.

There is an overall general shortage of doctors throughout the country. We are fortunate in the State of New York, and a number of other states likewise are fortunate, inasmuch as we have an excess of the minimum necessity for medical men to serve in the community, so it is necessary in planning that we are able to send, from our storehouse of accumulated medical men, men where and if an acute catastrophic emergency may arise.

I hope that as you deliberate upon the various resolutions, as you determine policy, you will bear in mind the extraordinary circumstances under which we are meeting, and remember that no officer, no spokesman of yours, has the right to go beyond the determined policy of this House of Delegates in representing the medical profession.

Finally, my sincere thanks to all of you for your support, without which nothing that has been accomplished—and dramatic accomplishments were not my goal—would have been possible. What has been done has been done because I felt I had you behind me. My thanks! (Applause)

SPEAKER BAUER. This report is referred to the Reference Committee on the Report of the President, of which Dr. Carlton E. Wertz, of Buffalo, is chairman.

Section 5. (See 30)

Address of the President-Elect

SPEAKER BAUER: Dr. Johnson, will you be a committee of one to escort the president-elect of the Medical Society of the State of New York to the platform?

(The delegates arose and applauded as Dr. William D. Johnson, of Batavia, escorted Dr. George W. Cottis to the platform.)

SPEAKER BAUER: Gentlemen, one year ago you selected Dr. George W. Cottis, of Jamestown, to lead this organization as president-elect. We all felt at that time that a very wise choice had been made, and I know we are all still of the same opinion.

Dr. Cottis, I am sure the house would like to hear from you at this time. The president-elect, gentlemen! (Applause)

PRESIDENT-ELECT COTTIS: Mr. Speaker and members of the House of Delegates, I thank you for the high honor that you have seen fit to confer upon me. I accept it with pride and with humility and with a deep sense of responsibility.

I can remember when a new president could look forward to a year of stimulating and pleasant associations, with no particular fears and forebodings. He could feel quite sure that if he could satisfy Kings County, he would not have any serious troubles, provided that Westchester or Erie did not go on a rampage during his term of office. (Laughter)

I look forward to this coming year with no such pleasant anticipations. It is true that our profession is united as never before. We are as one man in our resolve to preserve the traditions of the most humanitarian of all callings, but we are faced with two great responsibilities: First, to give everything we have in talent, time, money, and even life itself, to help to preserve our country and the other free peoples of the world from a condition of darkest barbarism. Second, we have to meet with courage, faith, and statesmanship the threats to our ideals of service.

This world revolution that everybody talks about, and about which very few seem to comprehend the import, is not a revolution in the sense of the French or the American Revolution, it is as fundamental as the change from feudalism to free enterprise at the end of the Dark Ages. That change is already complete over a great part of the world. It is complete in Germany, Italy, Spain, Russia, Japan, and, for the time being at least, in all of the enslaved countries. We have faith in the ability of Americans to preserve American freedom, but we must not shut our eyes to the profound changes that have already been made in our mode of government during the last ten years.

We must face the fact that these changes will be accelerated with an increased tempo as the war continues. Two years ago, 27,000,000 Americans voted for the continuance of paternalism and bureaucratic control, after having had eight years in which to evaluate it. That is a trend, and it is a trend over which we, as a profession, have no control. We, doctors, have very little political influence. All that we have is an understanding of the problem of the care of the sick. All that we have is an unshakable resolve to merit the confidence of our patients, and a resolve to fight every attempt to shackle us in political bondage. All that we have is the knowledge, the altruism, the courage, and the unity which must, no matter what social changes may come, preserve for us our right to scientific freedom of thought, our right to continue the highest standard of service that this world has ever seen, the right to solve our own problems, and the right to be fully represented on any coun-

cil that may propose to change our relationship with our patients.

It is to preserve these rights that we shall be fighting on the seven seas and on every continent. We must see to it that we do not save our rights by war only to lose them in the peace that follows. We have that power. God grant that we have the unity, the loyalty, and the courage to win the battle on both fronts. (Applause)

SPEAKER BAUER: The chair will appreciate it if both the president and the president-elect will do him the honor of remaining on the platform.

The address of the president-elect is referred to the Reference Committee on the Report of the President, of which Dr. Wertz, of Erie, is the chairman.

Mr. Secretary, are there any supplementary reports?

SECRETARY IRVING: There are six, sir.

The first is from the Committee on Legislation, and was referred to in the published report, with an addendum, both of which have been distributed.

SPEAKER BAUER: Have these been distributed?

SECRETARY IRVING: They have, sir.

SPEAKER BAUER: If there is no objection, since they have been distributed and are before you for your information, they will not be read. Hearing none, it is so ordered.

Section 6. (See 32)

Supplementary Report of the Council—Part VII: Legislation

This report is reasonably complete up to April 21, 1942. The Legislature has not yet closed, so that an addendum report must be given later. If the Legislature closes this week end, our executive officer will attempt to have prepared mimeographed copies of final actions of the legislators taken after April 21. We must remember that the Governor has a thirty-day period in which to act upon bills referred to him. A report of his action will be given in a final bulletin.

Possibly those of us who have been appointed to study the many bills of medical and public health interest should thank the Medical Society for that privilege. In this study of bills and those who introduced the bills and the proponents as well as the opponents, human nature is seen at its best and at its worst; in the raw and adorned. People are asking for favors, even requesting that a bill be passed to create a special job for a favorite or a relative, to except or exempt one or more persons from certain provisions of the law—without regard for the welfare of the majority; and there are those who are willing to grant these favors. We recognize that some of the people want to be fooled. They have no desire to seek advice, even without cost, from expert sources; hence there is always room for the illegitimate trades as well as for the legitimate. Why crown the charlatans and quacks? You may interpret this either way. Certain practices are immoral and reprehensible and every avenue of penalty should be provided, while every avenue of escape should be closed. Yes, extensive rackets would be stopped if there would be tremendous losses of revenue. So a

sort of tabling act occurs—good bills are not passed or they die in committees. The public wants something novel. It is not enough that smallpox and tuberculosis, pneumonia and malaria, diphtheria and typhoid, yellow fever and other diseases are nearly stamped out, because of the worthwhile, conscientious, and scientific actions of the medical profession—this translated into terms of money means a greatly lowered income for physicians and a greatly enhanced health for the people. The public has frequently been told that fact, but why should they trust the physician? The canny legislator realizes that the public does not know what is good for it and in an open letter to physicians dares to say, "If I cannot secure such support (medical) I can only conclude that the medical profession is concerned merely with the competitive angle of the chiropractor's work and not with the public interest and welfare."

Some bills have already gone to the Governor for action, and we are certain they will be properly handled. The Governor has deserved the favorable comments and approval of the medical profession.

The *radiology* bill is in good hands. Interested parties have given an excellent account of themselves. The doctors have supported it loyally and the legislators are better advised than ever before. If the laboratories, the chiropractors, and certain labor interests win, we may deduce that the correct preparation of the patient for x-ray pictures or treatment, that the skillful taking of the pictures or giving of the treatments, and the correct and proper diagnoses of the cases mean less to these legislators than pleasing the above-mentioned groups.

The *optometrists* have been out in front with three bills. One bill, S. Int. 1098, passed through the labor committee of the Senate and on to the floor of the Senate so rapidly that it evoked the criticism of the legislative committee by several of the ophthalmologists, but fortunately it was killed in the Assembly labor committee. Our Council Advisory Committee composed of Drs. Berens, Marlow, Thomas Johnson, Snell, and Cowper have given us promptly their opinions and have done their part to oppose undesirable legislation.

The Governor vetoed the bills permitting attorneys for claimant in *Workmen's Compensation* cases to issue subpoenas. We are grateful.

The *Medical Grievance Committee* bills of the Regents, we feel, detract from the value of that special committee; whereas the bills originating in the State Medical Society and approved by the majority of the Medical Grievance Committee should work out satisfactorily. The bills by the State Medical Society have passed the Assembly and are up for Senate action. Neither House has taken action on the Regents' bills.

War necessity and chauvinism have claimed much attention. The *chiropractors* are trying to find an entering wedge into the army with Labor apparently giving almost unbelievable support to them in several well-known ways.

Now for the encomiums—bouquets or cor-sages. Our grateful thanks go to our president, Colonel Kopetzky, and to the other officers, to the Council, and to the county legislative com-

mittees, to the woman's auxiliaries, and to many others for their generous assistance and ready support. We wish to express our sincere appreciation to the legislators and to their officers—especially to Governor Lehman—for their constant, daily, kind consideration and cheerful reception of the medical profession and their medical public health problems. May we re-

quest the House of Delegates to adopt a suitable expression of appreciation.

The following is a statement of the standing of the bills we have studied up to April 21, 1942.

Respectfully submitted,

WALTER W. MOTT, M.D.
LEO P. SIMPSON, M.D.
JOHN L. BAUER, M.D.

No. of Bill	Subject	Status
S. Int. 3 } A. Int. 40 } S. Int. 31 } A. Int. 43 } S. Int. 66 } A. Int. 61 } S. Int. 100 } A. Int. 91 } S. Int. 101 }	Amendment to Nurse Practice Act	Law, Chap. 1
S. Int. 92 } S. Int. 111 } A. Int. 11 } S. Int. 132 } A. Int. 140 }	Deduct hospital expenses from income tax	To Governor
S. Int. 215 } A. Int. 226 } S. Int. 245 } A. Int. 288 } S. Int. 246 }	Limits time for starting malpractice actions	No action on Sen. bill As. bill killed in As. com.
A. Int. 289 } S. Int. 274 } A. Int. 306 } S. Int. 312 } S. Int. 314 }	Typhoid carriers, rules to be established by Public Health Council	Law, Chap. 61
S. Int. 317 } A. Int. 234 } S. Int. 325 } S. Int. 338 } S. Int. 339 } A. Int. 377 }	Communicable disease reporting, payment for	Law, Chap. 95
S. Int. 365 } A. Int. 414 } S. Int. 392 } A. Int. 588 } S. Int. 431 }	Requires physicians to report automobile accidents to police authorities	No action on Sen. bill As. bill killed in As. com.
A. Int. 498 } S. Int. 482 } A. Int. 604 } S. Int. 491 } A. Int. 83 } S. Int. 523 }	Workmen's compensation benefits, one employee	No action on Sen. bill As. bill killed in As. com.
A. Int. 388 } S. Int. 565 } A. Int. 798 } S. Int. 664 } S. Int. 680 } A. Int. 1016 }	Appoint hay fever commission	No action on Sen. bill As. bill killed in As. com.
S. Int. 697 }	Hospital care for welfare patients, reimbursement by State	Sen. bill passed Sen. As. bill killed in As. com.
S. Int. 740 } A. Int. 895 } S. Int. 750 }	Death records, filing (relates to Steuben Co. only)	To Governor
A. Int. 1047 } S. Int. 788 } A. Int. 964 } S. Int. 789 }	License for use of smallpox vaccine virus	Law, Chap. 96
A. Int. 947 } S. Int. 847 } S. Int. 871 }	Creating consumers' bureau in Health Dept.	No action
A. Int. 1065 }	Patients in State tuberculosis hospitals, care and maintenance by State instead of county	Passed Senate
	Automobile accidents, testimony by commission, New York City	No action on Sen. bill As. bill killed in As. com.
	Workmen's compensation, domestic workers	3rd reading in Senate
	Workmen's compensation, sheriff, deputies	Law, Chap. 441
	Trichinosis commission, continue	Law, Chap. 14
	New York City, erect new hospital	No action in either house
	Miscellaneous liquor permits, hospitals	Law, Chap. 114
	Hospitalization of workmen	3rd reading in Sen. Killed in As.
	Establish psychiatric bureau as adjunct of children's court	No action in either house
	Education boards to establish staff of physicians, etc., for examination of school children	3rd reading in Sen. Killed in As.
	Poliomyelitis, suppression and control of	To Governor
	Publication of State rules and regulations	No action in Sen. Killed in As.
	Workmen's compensation, award by industrial board	No action
	Radiology bill	No action on Sen. bill As. bill on 2nd rdg. calend.
	Appropriation to Health Dept. for program of nutrition	No action
	Unemployment benefits, sick employees	No action on Sen. bill As. bill passed As.
	Day nursery schools, permits	Law, Chap. 164
	Defines personal injury liability insurance	Law, Chap. 184
	Appoint referees from Civil Service list	Sen. bill on 3rd reading As. bill killed in As.
	Expert medical testimony	No action in Sen.
	Governor to designate emergency health and sanitation areas	No action in Sen. As. bill passed As.

S. Int. 875}	Investigation by coroner	To Governor
A. Int. 550}		
S. Int. 879}	Practice of medicine by interns	To Governor
A. Int. 1097}		
S. Int. 880}	Medical Grievance Committee (by Regents)	No action in either house
A. Int. 1053}		
S. Int. 888}	Health service for pupils in vocational schools	To Governor
A. Int. 469}	Workmen's compensation, attorneys for claimant to issue subpoenas	Vetoed by Governor
S. Int. 963}	Regents to appoint council on child care and development	No action in either house
A. Int. 1205}		
S. Int. 990}	Requires boiling of garbage	Law, Chap. 214
A. Int. 1975}		
S. Int. 1026}	Establishes division of meat inspection in Agriculture Dept.	No action in either house
A. Int. 1291}		
S. Int. 1027}	Optometrists, testimony	Passed Sen.
A. Int. 1298}	Optometry, violations of law	To Governor
S. Int. 1032}	Continues Long Range Health Commission	Law, Chap. 362
S. Int. 1033}	Permits hospital service corporation to include insurance for surgeons' fees, etc.	No action in Sen.
S. Int. 1035}		As. bill killed in com.
A. Int. 1317}	Health insurance, blanket policy	To Governor
S. Int. 1054}	Workmen's compensation, practice by optometrists	Passed Sen.
A. Int. 1329}		Killed in As. Labor Com.
S. Int. 1055}	New York City education board to establish child guidance bureau	Sen. bill passed Sen.
A. Int. 1308}	Workmen's compensation, employee or carrier to select physician	As. bill killed in com.
S. Int. 1098}		No action in Sen.
S. Int. 1111}	Unidentified persons, hospital care	As. bill killed in com.
A. Int. 355}		To Governor
S. Int. 1156}	Changes filing fees for professional licenses in New York City	As. bill passed both houses
A. Int. 726}		
S. Int. 1172}	Requires pupils to receive physical training, etc.	No action in Sen.
A. Int. 1267}		As. bill killed in com.
S. Int. 1210}	State Health Commissioner to establish temporary health districts	No action in either house
A. Int. 1403}	Workmen's compensation, artificial limbs furnished by employer	To Governor
S. Int. 1266}	Physicians, Civil Service positions	Passed both houses
A. Int. 1615}	Milk embargo	Law, Chap. 500
S. Int. 1271}	Physically handicapped children, instruction	No action in Sen.
A. Int. 1613}	County with T.B. hospital not to be served by State hospital unless requested by supervisors	As. bill killed in com.
S. Int. 1404}	Students, athletic games, insurance by medical indemnity or hospital service corps	To Governor
A. Int. 2012}	Criminal abortion, physician, annulment of registration	Passed Sen.
S. Int. 1424}		3rd reading in As.
S. Int. 1427}		To Governor
A. Int. 1728}	Criminal abortion, perform or give information, misdemeanor	No action on Sen. bills
S. Int. 1573}		As. bill killed in com.
S. Int. 1680}	Abortion, testimony	No action on Sen. bills
A. Int. 1902}		As. bill passed As.
S. Int. 1574}	Physicians, military service, renew license	Law, Chap. 436
S. Int. 1681}		
A. Int. 1903}	Criminal abortion, physician, annulment of registration	No action
S. Int. 1674}	Medical Grievance Committee (by State Society)	No action in Sen.
S. Int. 2060}	Chiropractic bill (Page-Brees)	As. bill passed As.
A. Int. 1679}		No action in either house
S. Int. 1692}	Physician appointed to N. Y. C. teachers' retirement system, qualifications	Passed Sen.
A. Int. 2037}	Postpone effective date of amendment to Medical Practice Act (physicians for internship)	To Governor
S. Int. 1729}	Motor vehicle operators and chauffeurs, physical exam. and tests for eyesight	No action
A. Int. 2030}		
S. Int. 1809}		
S. Int. 1838}		
S. Int. 1865}		

S. Int. 1866	Regents, prescribe course of instruction in home nursing	3rd reading in Sen.
S. Int. 1914	Governor to appoint council to establish program for care of certain children	No action
S. Int. 1933	No person to forfeit license issued by N. Y. C. education board because of service in U. S. Armed Forces	No action
S. Int. 1934	License without exam. any person who has served in U. S. Armed Forces for 25 years	Passed Sen.
A. Int. 153	Establishes state-wide plan of public medicine	Killed in As. com.
A. Int. 155	Motor vehicle operators, require physician's certificate	Killed in As. com.
A. Int. 260	Abolish county tuberculosis hospitals	Law, Chap. 484
A. Int. 308	Practice of physiotherapy	Killed in As. com.
A. Int. 366	Nursing bureaus, license	No action
A. Int. 467	Workmen's compensation, domestic workers	Killed in As. com.
A. Int. 493	Requires physicians to report cases of infantile paralysis	Killed in As. com.
A. Int. 504	Workmen's compensation, mentally disabled employees	Killed in As. com.
A. Int. 725	Allows treatment by public hospitals of workmen's compensation cases	Killed in As. com.
A. Int. 747	Exempts small quantity of Stokes' expectorant and Brown's mixture from narcotic drug law (4 oz. per person)	Law, Chap. 426
A. Int. 905	Health Insurance Bill	Killed in As. com.
A. Int. 1058	Food handlers, physical examination	No action
A. Int. 1114	Life insurance policy, assign proceeds for funeral expenses	Killed in As. com.
A. Int. 1144	Mentally sick persons, commit to State hospitals for observation	Killed in As. com.
A. Int. 1148	Health orders, violation to be offenses instead of misdemeanors	Killed in As. com.
A. Int. 1155	Workmen's compensation, treatment by podiatrists	No action
A. Int. 1210	Negligence actions, joint responsibility	No action
A. Int. 1212	Hospital liens, New York City	Passed As.
A. Int. 1386	Nurse registry bureaus, license	On 3rd reading in Sen.
A. Int. 1434	Practice of chiropractic	No action
A. Int. 1603	Air raid wardens, pay medical expenses if injured during defense work	No action
A. Int. 1677	Workmen's compensation, defines term "employer"	Killed in As. com.
A. Int. 1807	Workmen's compensation, appoint specialists in orthopedics and neurology	No action
A. Int. 1832}	Defines physiotherapy	Int. 1832 killed in com.
A. Int. 2093}		No action on Int. 2093
A. Int. 1899	Medical research, communicable diseases	Passed As.

Addendum Report

(April 25, 1942)

The Legislature adjourned a few hours later than prearranged, on Friday evening, April 24.

The final business of the Assembly was an attempt on the part of Mr. Brees to compel the Committee on Rules to report out the chiropractic bill. He made an impassioned address on the merits of chiropractic and the wisdom of the State's providing for a method of licensing its practitioners. At the close of his address he demanded that his request be acceded to. The Chamber denied his request. In the Senate, the Education Committee at noon the day before had conferred with regard to reporting the bill out and, I am informed, agreed that if the bill should pass the Assembly, they would report it out on the Senate floor. Thursday evening, after receiving the report of the Senate committee's decision, the county chairmen of the largest counties, and especially those where the attitude of the Senator was not too well established, were reached by long-distance telephone and re-

quested to communicate with their Senators immediately.

The Milmo Medical Grievance Committee bill, which is the bill of last year amended so as to meet the objections on which the Governor based his veto, having passed the Assembly, was defeated in the Senate. The opposition was presented by Senator Page, of Binghamton, based on a brief he exhibited and excerpts of which he read, submitted by Dr. Mazzola, a member of the Grievance Committee. After the vote was taken, Senator Young asked that the bill be tabled and, in the meantime, we explained to the dissenting Senators that the bill was endorsed by both the Medical and the Osteopathic societies and was practically the bill that the Grievance Committee itself drafted the year before with the Regents' approval. And then it was discovered that the opponents generally thought that the Society was opposed to the bill and the brief that Senator Page offered was an approval. This matter having been straightened out in their minds, the bill was brought out on the floor again and passed with no opposition.

The Senate before adjournment passed another bill which amends the Penal Law relative to the commission of abortion. The woman involved is thus permitted to offer evidence without incriminating herself. It is hoped that this will give the police and other enforcement officers a better opportunity to apprehend and convict commercial abortionists.

The X-ray bill reached third reading in the Assembly, but the powerful opposition which it encountered all the way along prevented its getting any further. However, Assemblyman Sullivan and I have learned a lot which we consider will be of great assistance in handling the bill next year.

A preliminary report of the bills acted upon in the last two days follows:

S. Int. 1032	Optometrists, testimony	To Governor
S. Int. 1424	Physicians, Civil Service positions	To Governor
S. Int. 1602	Students, athletic games,	To Governor
S. Int. 1562	insurance by medical indemnity or hospital service corporations	
S. Int. 1933	No person to forfeit license issued by N. Y. C. education board because of service in U. S. Armed Forces	To Governor
A. Int. 366	Nurse registry bureaus, license	To Governor
A. Int. 1065	Governor to designate	To Governor
S. Int. 871	emergency health and sanitation areas	
A. Int. 1899	Medical research, communicable diseases	To Governor
A. Int. 1903	Criminal abortion, testimony	To Governor
S. Int. 1574		
S. Int. 1681		
A. Int. 2037	Medical Grievance Committee	To Governor
S. Int. 1692		

JOSEPH S. LAWRENCE, *Executive Officer*

SPEAKER BAUER: This is referred to the Reference Committee on Report of the Council, Part VII, Dr. Walter P. Anderson, chairman, without reading, but as distributed to the delegates.

SECRETARY IRVING: There is also a supplementary report from the treasurer.

SPEAKER BAUER: Has that been distributed also?

SECRETARY IRVING: It has, sir, but I think it would be well if it were read. It is short.

Section 7. (See 46)

Supplementary Report of the Treasurer

DR. KIRBY DWIGHT: I have tried to make this as brief as possible.

As a supplementary report of the treasurer, I wish to submit an amendment to the Bylaws.

This amendment is proposed in order to facilitate the work of the treasurer's office and the activities of the Society. The Trustees meet regularly only once every two months during most of the year and not at all in midsummer. It is obviously a hardship for the officers, Council members, delegates to the American Medical Association, presidents of district branches, etc.,

to have to wait so long before they can be reimbursed for their expenditures. And it is a hardship that seems unnecessary to impose upon them, as these items of expense are all provided for in the budget.

Proposed Amendment to Chapter X of the Bylaws, Which Is Entitled "Expenses"

Delete the following phrases that have to do with approval of expense vouchers by the Board of Trustees before payment.

1. In the sentence reading "Proper vouchers must be filed with the Secretary . . ." delete the following:

"and approved by the Board of Trustees."

2. Delete the sentence reading:

"The vouchers of such expense shall be approved by the Board of Trustees before payment."

3. In the seventh line above the end of the section, as printed in the 1941 printing of Constitution and Bylaws, delete the phrase:

"and approved by the Board of Trustees."

Add at the end of the section the following sentence:

"Payment of all these expenses shall be made under directions of the Board of Trustees."

With these deletions and this addition, Chapter X as amended will then read:

Chapter X—Expenses

"Section 1. Allowances for expenses incurred in the actual performance of official duties by officers, members of the Council, the Board of Trustees, of the Board of Censors and committees, and delegates to the American Medical Association shall be made in conformity with the following conditions: The President shall be allowed a per diem and expenses when engaged upon official business. All other officers shall be allowed traveling expenses when engaged upon official business. Members of the Council, of the Board of Trustees and of the Board of Censors, shall be allowed traveling expenses. Members of committees of the Council, and all special committees of the Society, shall be allowed traveling expenses. Presidents of the District Branches sitting in the House of Delegates shall be allowed necessary expenses. There shall be no allowance made for the expenses, traveling or otherwise, for any committee appointed pursuant to Chapter XI of these Bylaws. Proper vouchers must be filed with the secretary before any of the above allowances are made. The delegates to the American Medical Association who have attended each session of the House of Delegates of that Association and who shall have filed with the secretary evidence of such attendance shall be allowed the actual cost of railroad transportation and Pullman accommodations to the place of meeting and return. Each district branch shall be entitled to receive a sum not to exceed \$200, exclusive of the work done by the secretary regarding notices, programs, etc., to defray the expenses of holding the annual meeting of such district branch, provided a proper state-

ment of such expense shall have been presented to the secretary. All bills, claims, or vouchers herein provided for shall be filed within thirty days after the date of the incurring of such expense. This time may be extended for any cause by the Board of Trustees and such extension shall not exceed ninety days. *Payment of all these expenses shall be made under directions of the Board of Trustees "*

It is now possible to estimate with some degree of accuracy the extent to which our Society will suffer financially from the loss of the dues of our members who are in active service in the Armed Forces of the United States. By the end of this year there will be about 2,500 of our members so engaged; this will mean a diminution in our income of about \$25,000 for the year 1943.

It is evident that the utmost economy must be practiced in the conduct of our Society. It is also evident that the income from our investments will have to be used to defray current expenses, instead of being saved in order to improve our financial position as they have been for the past few years. It is probable that there will have to be some curtailment of services or activities, and in this connection I should like to endorse the recommendation of the Council that the publication of the *Directory* be postponed. However, rather than seriously to curtail any of our essential activities or to disrupt our organization, I should favor selling some of our securities to meet the needs. The Society is to be congratulated on having had the good fortune and the foresight, in good times, to build up a very substantial war chest for use in just such an emergency as that in which we now find ourselves.

Respectfully submitted,

KIRBY DWIGHT, *Treasurer*

SPEAKER BAUER: That portion of the treasurer's Supplementary Report which pertains to the Bylaws will remain on the table in the hands of the secretary until next year, the balance of the report is referred to the Reference Committee on Report of the Treasurer and Board of Trustees, Dr. William Klein, of Bronx, chairman.

SECRETARY IRVING: The next supplementary report is from the Council, prepared by myself after the last meeting on March 12, 1942. It is short, so, although it has been distributed, I will read it.

Section 8. (See 47)

Supplementary Report of the Council—Part III: School Health Program

April 7, 1942

The Council at its meeting on March 12, 1942, received a report from Dr. Mitchell, as chairman of the Council Committee on Public Health and Education, on the subject of adding one hour to each school day for physical education activities. The Board of Education had recommended the added hour, on February 20, 1942. On March 6, 1942, at the request of the president of the New York State Association of School Physicians, Dr. Wm. E. Ayling, a combined meeting was held between Dr. Mitchell's Subcommittee on School Health Program and the Executive Committee

of the State Association of School Physicians. There were present at that meeting the following representatives of the two organizations:

New York State Association of School Physicians

Dr. William E. Ayling, president
Dr. Edgar Bieber, vice-president
Dr. C. Adele Brown, secretary-treasurer
Executive Committee:
Dr. Clarence A. Greenleaf
Dr. Lewis W. Heizer
Dr. Michael Levitan
Dr. John E. Burke

Medical Society of the State of New York

Dr. O. W. H. Mitchell, chairman, Council
Committee on Public Health and Education
Dr. Charles D. Post, Council Committee on
Public Health and Education
Dr. A. Clement Silverman, Subcommittee on
School Health Program
Dr. Albert D. Kaiser, Subcommittee on School
Health Program
Dr. J. G. Fred Hiss, chairman, Subcommittee
on 4-H Clubs, State Health Director National
Youth Administration

Dr. Mitchell reported to the Council that this matter had been discussed fully and that it had been decided to appoint Dr. Silverman of the State Society and Dr. Ayling of the State Association of School Physicians to draw up a letter to Dr. Mitchell which he could submit to the Council. The letter follows:

March 9 1942

Dr. O. W. H. Mitchell, Chairman
Council Committee on Public Health and Education,
Medical Society of the State of New York,
Syracuse, New York

Dear Dr. Mitchell

On March 6, the School Health Subcommittee of the Medical Society of the State of New York, and other representatives of the Society, met with the Executive Board of the New York State Association of School Physicians. The purpose of this conference was to consider the recommendation of the New York State Board of Regents, made at its meeting February 20, that an hour be added to each school day for physical education activities.

It is the opinion of the group that this plan will not bring about the results for which it is intended, i.e., to improve the physical fitness of school children. The report of the Board of Regents states that the problem of health and physical training has been made more acute in the public mind by current reports of the physical defects found by the draft.

Attention is called to the fact that, according to Col. L. G. Rowntree, Chief of the Medical Division of the Selective Service System, Washington, D. C., 45 per cent of those examined for military service were rejected for class 1-A. He states the main reasons for rejections were, first, teeth, then poor vision, heart disease, nutrition, mental and nervous diseases, ear conditions, herniae, and lung conditions. Very few, if any, of these conditions would be corrected, or even benefited, by the proposed extension of the physical education program. Muscle building sports and calisthenics will not do the job.

As Col. Rowntree says, an estimated 50 per cent of the rejectees have remediable defects which could be corrected by moderate, inexpensive, and comparatively safe medical and surgical procedure. Steps in this direction are already being taken, but there is definite need of this corrective medical work among our school chil-

dren, who will be our future service men. The school health services bring to the attention of the pupils, and their parents, the defects which are in need of correction, but parents and pupils often neglect to have these corrections made.

Private practitioners and school physicians are in favor of any measure which will improve the health of our youth, but this must start with the conditions which are known to be undermining their health. Exercise will help in a way and there is still the out of doors, where children can walk, ski, and skate in the winter, and swim and hike in the summer. These out-of-doors activities are greatly to be preferred over indoor drills and calisthenics.

Physicians are greatly concerned with childrens' health and feel that the school day is already long enough. They also feel that lengthening the time in school would tend to have a deleterious effect rather than promote good health.

We agree fully with the statement of the need of a more searching and far-reaching health program for the public schools. More adequate support of the School Health program would undoubtedly bring about corrections of defects found. What is needed is promotion of the Health Education and Health Service programs and not just the Physical Education activities. More instruction in personal hygiene, physiology, first aid, and, for girls, home nursing would be definitely of great benefit, particularly now while we are at war.

These facts may not all have been brought to the attention of the Board of Regents but should be considered before any radical change in the school program is made.

Respectfully submitted,

A CLEMENT SILVERMAN, M D
WM E AYLING, M D
Cochairmen

The Council directed the transmission of a copy of this communication to the Commissioner of Education and to each member of the Board of Regents. This instruction was carried out.

SPEAKER BAUER: This report is referred to the Reference Committee on Report of the Council, Part III, School Health Program, of which Dr. Leo F. Schiff, of Clinton, is chairman.

SECRETARY IRVING: The next supplementary report is from the Special Committee on Publication, which I think should be read by the chairman of that committee, Dr. Thomas M. Brennan.

DR. THOMAS M. BRENNAN: This also has been distributed, has it not?

SECRETARY IRVING: Yes.

(Dr. Brennan then read the following report.)

Section 9. (See 65)

Supplementary Report of the Council—Part XI: Committee on Publication

The Publication Committee begs to submit a substitution for that part of the Council Report—Part XI—which carries, under the subtitle "Continuation of Special Committees," the recommendation of the Council that the House direct the personnel be:

"For the Publication Committee the general manager, the director of the Public Relations Bureau, the literary editor, the treasurer, and one member of the Board of Trustees to be appointed by the president of the Society after

consultation with the chairman of the Board of Trustees, in accordance with the resolution adopted by the House of Delegates in 1941."

The Publication Committee recommends that the House give the following direction as to personnel:

"The Committee on Publication shall consist of the general manager, the treasurer, the director of the Public Relations Bureau, the literary editor, and one trustee, who shall be chairman; the trustee to serve shall be selected by the chairman of the Board of Trustees, and the literary editor shall be selected by the Committee on Publication at its first meeting after this meeting of the House of Delegates, the former literary editor not voting. This is deemed to be the most satisfactory way to choose the incumbent of this position, who thereupon becomes a member of the Committee, because of the familiarity of the Committee with the duties involved and the qualifications necessary for the satisfactory performance of them."

SPEAKER BAUER: This report is referred to the Reference Committee on Report of the Council, Part XI, of which Dr. Harry S. Bull, of Cayuga, is chairman.

SECRETARY IRVING: The next supplementary report, Mr. Speaker, is from the Special Committee on Office Administration and Policies. Although it has been distributed, I think it should be read by the chairman of the committee, Dr. Kosmak.

(Dr. George W. Kosmak read the following report.)

Section 10. (See 65)

Supplementary Report of the Council—Part XI: Committee on Office Administration and Policies

This Committee begs to add two recommendations to that part of the Council Report—Part XI—which carries, under the subtitle "Continuation of Special Committees," the recommendation for House direction as to personnel. After the paragraph headed "For the Committee on Office Administration and Policies" there would be added the following recommendations:

"That the Committee on Office Administration and Policies shall maintain a personnel file in which is a complete statement of the experience of every person on the clerical or administrative staff (other than persons under annual written contract with the Society), and in this file shall be reposed a full history—experience, salaries received, and places of employment—of each employee before entering the Society's employ, together with a statement of salary increases since entering such employ, changes of duties as they have occurred and may occur in the future. This shall also be required of applicants for position as well, on the usual blanks commonly used in administrative offices.

"That the Committee on Office Administration and Policies shall have power and authority to designate duties of members of the clerical staff, by this meaning all persons whose employment is otherwise than by written contract with the Society, and who are engaged

in secretarial, clerical, bookkeeping, editing, proofreading, or the supervision of such duties; to fix their salaries, to decide matters of overtime payment, and any and all other details of their work that the Committee may wish to delineate. No person shall be increased in salary and no new person be employed without the approval of this Committee, excepting temporary employees whose position on the staff shall not become permanent until authority has been obtained from the Committee."

SPEAKER BAUER: This report is also referred to the Reference Committee on Report of the Council, Part XI, of which Dr. Bull is chairman. Are there any further supplementary reports?

SECRETARY IRVING: No, sir.

Section 11

Introduction of Delegates from Other State Medical Societies

SPEAKER BAUER: Are there any delegates present from the Medical Societies of the States of Connecticut, New Jersey, or Vermont?

(There was no response.)

SPEAKER BAUER: If at any time you discover there are delegates present from those state societies, I wish you would inform the chair so that they may be properly recognized.

Section 12

Announcements by Speaker

Before we receive resolutions, there is one matter I should like to call to your attention. You will recall that last year you amended the Bylaws so as to eliminate the necessity for having an evening session on Monday. Heretofore we have had three sessions on Monday, with the result that everyone has been very much fatigued by the end of the evening. The amendment last year made it possible to eliminate this evening session by providing for two sessions on Monday and two on Tuesday. Therefore, for the first time the election of officers will not occur on Tuesday morning but will occur on Tuesday afternoon. It is important, gentlemen, that you be on time at the adjourned sessions of the House. The schedule of the sessions was announced in the JOURNAL a month ago, and I am sure you are familiar with it, but we will recess after this morning's session until 3:00 P.M. That afternoon session will probably run until 6:00 P.M., or maybe 6:30 P.M. because we must get as much done as possible today. Then we will recess until 9:00 A.M. tomorrow, Tuesday morning. I know that is an early hour, but it is necessary that we start promptly at 9:00 A.M. so as to complete all the business except the election in the morning session. The afternoon session will have to start promptly at 1:00 P.M. and we must be out of this room before 3:00 P.M., when a general session takes place.

I should also like to call your attention to the exhibits, not only to the Scientific Exhibits but to the Technical Exhibits. As you know, the success financially of an Annual Meeting of this Society depends in large part on our Technical Exhibits, and I hope that every gentleman of the House will show his appreciation of the technical exhibitors by going to their exhibits and showing

some interest in them. I hope that at the end of each session of the House you will all go out and spend some time going through these exhibits.

Section 13

Constitution and Bylaws—Amendments Adopted

SPEAKER BAUER: There are two amendments to the Constitution and Bylaws which were introduced last year. As they are both very brief they will be taken up at this point, and I will ask the secretary to read them.

(A) Amendment to Article IV of the Constitution

SECRETARY IRVING: The first amendment submitted last year, gentlemen, reads as follows:

"The first is a proposed amendment to Article IV of the Constitution, which reads:

'There shall be a Council composed of the president, the president-elect, the immediate past-president, the secretary, the treasurer, the speaker, and nine other members elected by the House of Delegates.'

"The proposed amendment is to insert after the word 'speaker' the words 'chairman of the Board of Trustees' so that as amended it will read:

'Article IV—Council

'There shall be a Council composed of the president, the president-elect, the immediate past-president, the secretary, the treasurer, the speaker, the chairman of the Board of Trustees, and nine other members elected by the House of Delegates.'

SPEAKER BAUER: I believe the amendment is perfectly plain. It simply modifies the present Constitution to make an additional member of the Council, namely, the chairman of the Board of Trustees. This amendment is before you for your consideration.

DR. GEORGE W. KOSMAK, New York: I move the adoption of this amendment to the Constitution.

DR. JAMES R. REULING, JR., Queens: I second the motion.

.... There being no discussion, the motion was put to a vote, and was unanimously adopted.....

(B) Amendment to Chapter VII of the Bylaws

SECRETARY IRVING: The second amendment proposed is to Chapter VII of the Bylaws, to be Section 13, as follows:

"Any officer of the Medical Society of the State of New York or its district branches who is called into active service with the Armed Forces of the United States, may, upon application to the Council, be granted leave of absence for any portion of his term of office during which he is on active service. During such absence, his duties shall be delegated as the Council may direct except where such delegation is already provided for elsewhere in the Bylaws."

SPEAKER BAUER: You will recall, gentlemen, that this was introduced last year as a resolution, if my memory serves me rightly, by Dr. Heyl, of Westchester, and was ruled out of order as a resolution. Inasmuch as it involved an amendment to the Bylaws, it had to remain on the table until this year. It is now before you for

consideration. As you know, except in those instances where the Bylaws specifically provide for the filling of an office during the absence of the incumbent, there is nothing that an incumbent can do except resign if he is away from his duties. It was felt that the military situation should not interfere with a man's remaining in office, and that was why this amendment was introduced and is before you for consideration as to whether or not you wish to provide that in the case of an officer being called into active military service he shall not have to resign his office, but that his place shall be filled by the Council until such time as he returns to take up his duties.

DR. ALFRED HELLMAN, *New York*: I move the adoption of that amendment to the Bylaws.

DR. KIRBY DWIGHT, *New York*: I second it.

.... There being no discussion, the motion was put to a vote, and was unanimously adopted....

SPEAKER BAUER: Are those all the amendments, Mr. Secretary?

SECRETARY IRVING: Yes.

SPEAKER BAUER: The Chair will now receive resolutions.

DR. GEORGE W. KOSMAK, *New York*: These are no resolutions, but they are amendments to the Constitution and Bylaws.

SPEAKER BAUER: Very well; we will take those now.

Section 14

Constitution and Bylaws—Proposed Amendments

DR. KOSMAK: Mr. Speaker and Members of the House, I desire to submit the following amendments to the Constitution and Bylaws of the State Society:

Article XIV Medical Benevolence Fund

"There shall be created a Benevolence Fund under the terms and conditions outlined in Chapter XII, Article 4, of the Bylaws. For this purpose there shall be appropriated by the Trustees out of the funds of the Society a sum not to exceed fifty cents per active member per year, to be set aside by the Treasurer as a special fund for the purpose of this Article. This fund shall be kept separate and invested or distributed by direction of the Board of Trustees of the Society under rules and regulations approved by the latter. The fund shall be used only for the relief of pecuniary distress of sick or aged members who are or have been active members in good standing of the Society."

Chapter XII, Section 4 Special Committees

"Section 4—The President of the Society shall appoint, immediately after the Annual Meeting, a special committee of five to be known as the Special Committee on Benevolence of the Medical Society of the State of New York, consisting of two members from the Board of Trustees to be selected by the Chairman of the latter, the Treasurer, the Secretary, and a representative from the Woman's Auxiliary of the State Society to be selected by its President. This Committee shall select its own Chairman and have absolute jurisdiction over the distribution of such funds as have been allotted

by the Society's Finance Committee from current income after appropriation by the Board of Trustees. No moneys shall be paid except on warrants signed by the Chairman of the Committee and the Treasurer. The Committee shall formulate rules and regulations for the acceptance of beneficiaries for consideration and approval by the Council. It may solicit subscriptions, donations, and legacies to be added to the principal of the Benevolence Fund. It shall present a detailed audit of receipts and expenditures, included in an annual report of its activities to the Council and the House of Delegates."

SPEAKER BAUER: In accordance with the Constitution and Bylaws, these proposed amendments must remain in the hands of the secretary until next year for consideration.

Are there any resolutions?

Section 15. (See 39)

Medical Expense Indemnity Insurance

DR. ABRAHAM KOPLOWITZ, *Kings*: This concerns Medical Insurance, and reads:

"WHEREAS, the Insurance Law, in Article IX-C, provides for voluntary nonprofit cash indemnity insurance and (through representations made on behalf of the Medical Society of the State of New York) the law now provides that no corporation shall be licensed to furnish both hospital and medical insurance; and

"WHEREAS, the Hampton-Wright bill introduced in the present session of the legislature would permit hospital service insurance plans to include indemnity for physicians and surgeons fees in their contracts; and

"WHEREAS, any medical indemnity furnished through a hospital insurance contract would make the service of doctors incidental to the institutional services with control of all details of such indemnity and service in the hands of lay dominated boards of management; and

"WHEREAS, the Hampton-Wright bill has been put off to the next session of the legislature with due notice that it will be pressed for favorable consideration if by that time medical insurance under administrative control of the medical profession has not developed a reasonably satisfactory participation on the part of both the profession and the public; and

"WHEREAS, the relatively small enrollment of subscribers and the incomplete participation of the medical profession during the past year have been due in part to the lack of outright full support of such enterprises by the organized medical societies; and

"WHEREAS, the Hampton-Wright bill, if enacted, will give the hospitals a legal entry into the practice of medicine, which in turn will constitute a long step toward lay control of medical practice and ultimately to a system of government medical service in the hands of a bureaucracy; and

"WHEREAS, The Council of the Medical Society of the State of New York has '... recognized with satisfaction the creation of three organizations for nonprofit medical expense indemnity insurance. In the opinion of the Council, the three have followed the tentative basis and suggestions for medical expense in-

demnity insurance that were set up by the House of Delegates, April 24, 1939'; therefore be it

"Resolved, that the Medical Society of the State of New York now officially approve, sponsor, and support in every manner possible the three corporations which have conformed to the principles prescribed by organized medicine for the protection of the interests of both the public and the profession in the organization and operation of medical insurance, namely: The Western New York Medical Plan, Inc., of Buffalo; the Medical and Surgical Care, Inc., of Utica; and the Medical Expense Fund of New York, Inc., of Brooklyn; and be it further

"Resolved, that notice of this action of the House of Delegates be given to the county medical societies within the territory of the organizations thus endorsed, and that each one be urged to cooperate in every practical manner toward the accomplishment of a successful operation of a

demnity insurance in their respective fields of influence and interest, in order that a system of medical insurance under administrative control of the medical profession shall be developed and maintained."

SPEAKER BAUER: This resolution is referred to the Reference Committee on New Business A, of which Dr. Simpson is chairman.

Section 16. (See 49)

Medical Relief, Direct Payment of Medical Fees

DR. KOPLOWITZ: I have another resolution which reads:

"WHEREAS, under the Social Security Act payments for medical care given to recipients-of-aid from the Blind, Old Age, and Dependent Children's divisions of the Department of Social Welfare can no longer be made to physicians directly, but, instead, these payments must be made to the patient; and

"WHEREAS, this method of payment has worked a hardship on the physicians who have rendered medical care to these persons by forcing them to make one or more additional calls to collect their bills; and

"WHEREAS, in New York City it has been proven that nearly 5 per cent of these patients have not paid their doctors for medical care rendered with the money which the State Department of Social Welfare gave them, but instead have spent the money for other uses; and

"WHEREAS, we are informed by the New York City Department of Welfare that this percentage is only a fraction of the number of patients who did not pay their physicians for medical care, as shown by the great many complaints from physicians who have telephoned to that department, rather than written letters which could be submitted in evidence; and

"WHEREAS, a similar resolution was introduced into the House of Delegates of the Medical Society of the State of New York at Buffalo, in 1941, at which time it was agreed that the State Society would carefully watch the experiment of using this method of payment; and

"WHEREAS, we feel that in New York City

this experiment has not been a success; therefore be it

"Resolved, that the New York State Medical Society, through its Delegates to the American Medical Association, request that the American Medical Association have legislation initiated to provide a change in the Social Security Act so that persons rendering medical care to recipients-of-aid from any government agency may be paid directly by that agency."

SPEAKER BAUER: This resolution is referred to the Reference Committee on New Business B, of which Dr. Masterson is chairman.

Section 17. (See 41, 42)

Opposition to Attempts to Lower Standing of Medical Practice or Conduct

DR. ARTHUR J. BEDELL, *Past-President*: I have this resolution to offer:

"WHEREAS, it has come to our attention that resolutions may be introduced in the House of Delegates of the American Medical Association which we believe will lower the ethical standing of the members of the profession; and

"WHEREAS, we are convinced that any attempt to so alter the professional standing of our members would be detrimental to the public health; be it therefore

"Resolved, that the House of Delegates of the Medical Society of the State of New York, in annual session assembled, hereby registers its protest of any such contemplated changes; and further be it

"Resolved, that the delegates from the Medical Society of the State of New York to the American Medical Association be instructed to oppose any and every attempt to lower the standing of medical practice or conduct."

SPEAKER BAUER: This resolution is referred to the Reference Committee on New Business C, of which Dr. Guess is chairman.

Section 18. (See 42)

Opposition to Change in A. M. A. Rule of Ethics Against Consultation with Nonmedical Persons

SPEAKER BAUER: The secretary has one resolution to read which was sent in by mail.

SECRETARY IRVING: This resolution comes from Dr. Irl H. Blaisdell, secretary, Syracuse Eye, Ear, Nose, and Throat Club:

"WHEREAS, there is a Rule of Ethics governing the relationship of members of the American Medical Association in the matter of giving lectures or courses of instruction or to consult with anyone not associated with actual medical service, adopted by the House of Delegates of the American Medical Association in 1935; and

"WHEREAS, this Rule of Ethics in the opinion of this organization is still satisfactory and adequate; and

"WHEREAS, the motion passed at the 1941 meeting of the Section of Ophthalmology of the American Medical Association, in Cleveland, asking the House of Delegates to rescind this motion was not adequately discussed; and

"WHEREAS, the one hundred and fifty members present did not fully represent the opinions of this organization; be it

"Resolved, that it is the opinion of this organization, the Syracuse Eye, Ear, Nose, and Throat Club, that the Rule of Ethics established in 1935 by vote of the House of Delegates not be rescinded; and be it further

"Resolved, that the Secretary be instructed to convey a copy of these resolutions to the Delegates of the New York State Medical Society, to the House of Delegates of the American Medical Association, and to such others as may be advisable, namely, the President of the American Academy of Ophthalmology, Dr. Ralph I. Lloyd, of Brooklyn, New York, and the Secretary of the Ophthalmological Section of the American Medical Association, Dr. Derrick Vail, of Cincinnati, Ohio."

SPEAKER BAUER: Inasmuch as this is on the same general topic as the resolution introduced by Dr. Bedell, it will be referred to the same Reference Committee, the Reference Committee on New Business C, of which Dr. Guess is chairman.

Section 19. (See 50)

Medical Relief, Direct Payment of Medical Fees to the Aged, the Blind, and Dependent Children

DR. WILLIAM TRAVIS GIBB, JR., *New York*: This is a similar resolution to that introduced a short while ago concerning the payment of physicians for medical care to the aged, the blind, and dependent children:

"WHEREAS, after April 1, 1941, checks from the Department of Welfare of the City of New York (Q. V. Form M. med 383 b) for the Medical Care of those patients entitled to Old Age Assistance and Blind Assistance will be issued directly to the recipients of the care and not to the doctors rendering it; and

"WHEREAS, this is patently unjust as it forces the physician to collect these fees from indigent people who may be unreliable; and

"WHEREAS, this is an example of the unfair advantages being taken of physicians; therefore be it

"Resolved, that the Medical Society of the County of New York go on record as being opposed to the proposed change in method of payment; and that the Society request the Department of Welfare to continue its former method of paying these physicians directly; and be it further

"Resolved, that this House of Delegates be instructed to vigorously protest this injustice, to record itself as being opposed to this procedure; and to have the Medical Society of the State of New York also request the Department of Welfare to pay those physicians directly, as heretofore; and be it also

"Resolved, that the Medical Society of the State of New York recommend to the American Medical Association to request the Government at Washington to alter that provision of the Social Security Law necessary to permit doctors to be paid directly."

SPEAKER BAUER: This resolution will be referred to the same Reference Committee as the previous one, namely, the Reference Committee on New Business B, of which Dr. Masterson is the chairman.

Section 20. (See 86)

Elimination of Required Certification of Checks in Payment of Tax Stamps for Opium Dispensing, etc.

DR. WALTER P. ANDERTON, *New York*: This resolution is introduced under the instructions of the Medical Society of the County of New York:

"WHEREAS, the physicians and surgeons who dispense or prescribe opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, are required by Federal law and regulations annually to purchase a special tax stamp for \$1.00; and

"WHEREAS, when payment of such dollar is made by check, it is required that such check be certified by the bank of payment; and

"WHEREAS, the Treasury Department of the United States of America accepts checks for larger amounts without requiring certification; therefore be it

"Resolved, that the Medical Society of the State of New York protests against the requirement that checks for purchase of special tax stamps in connection with dispensing and prescribing opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, are required to be certified; and be it further

"Resolved, that the delegates from the Medical Society of the State of New York to the House of Delegates of the American Medical Association are hereby instructed to introduce a resolution at the 1942 session embodying this protest, and urging the American Medical Association to take emphatic and persistent steps toward the elimination of the requirement for certification of checks previously mentioned in this resolution; and be it further

"Resolved, that copies of this resolution be sent to important local and national dentist, veterinary, pharmacist, manufacturing chemist, and banker organizations, inasmuch as members of such organizations are also affected by the unnecessary labor of certification of small checks."

SPEAKER BAUER: This resolution is referred to the Reference Committee on New Business A, of which Dr. Simpson is the chairman.

Section 21. (See 66)

"Walk a Block a Day"

DR. HARRY C. GUESS, *Erie*: This resolution was passed unanimously by the Erie County Medical Society:

"WHEREAS, the Medical Society of the County of Erie has passed resolutions advocating that walking a block a day is a good health measure; and

"WHEREAS, it is the duty of the medical profession to promulgate health measures for all people; and

"WHEREAS, there is great need, especially during these times, for better health and a stronger nation; and

"WHEREAS, it is possible for each component county society comprising the New York State Medical Society to advocate this health measure; therefore be it

"Resolved, that the Delegates of this New York State Medical Society approve this health project; and be it

"Resolved, that the Public Health Committee of the Council formulate plans to bring this slogan,

'WALK A BLOCK A DAY'

before the public; and be it further

"Resolved, that our Delegates to the A.M.A. present as a resolution to the Delegates at Atlantic City in June to recommend this health measure to the people of the United States, using the slogan:

'WALK A BLOCK A DAY.'

SPEAKER BAUER: This resolution is referred to the Reference Committee on New Business B, of which Dr. Masterson is chairman.

Section 22. (See 44)

Licensure, Full Citizenship Requirement

DR. JOHN L. EDWARDS, Columbia: This resolution is introduced on behalf of Dr. Denver M. Vickers, of Washington County, Dr. Joseph H. Cornell, of Schenectady County, and myself:

"... of foreign-educated medicine in this state without known scholastic and medical training has tended to lower the standards of medical ethics and practice, be it

"Resolved, that applicants for the practice of medicine in this state from foreign schools other than Canada be required to have full citizenship, premedical and medical education comparable with that of class A medical schools of the United States and Canada."
(Applause)

SPEAKER BAUER: This resolution is referred to the Reference Committee on New Business C, of which Dr. Guess is the chairman.

Section 23. (See 35)

Waiving of Penalties for Failure to Attend Hospital Staff Meetings

DR. HAROLD B. DAVIDSON, New York: This resolution reads:

"WHEREAS, the duties of physicians working in hospitals will increase greatly during the war, therefore be it

"Resolved, that the American Medical Association, the American College of Surgeons, and other national organizations be petitioned to waive penalties to hospitals or doctors for failure to attend staff meetings in hospitals for the duration of the war and six months thereafter.

"On motion, this resolution was passed, and it was voted to refer the matter to the Coordinating Council and to instruct the Delegates of the Medical Society of the County of New York to introduce this resolution at the next meeting of the House of Delegates of the Medical Society of the State of New York."

SPEAKER BAUER: This is referred to the Reference Committee on New Business A, of which Dr. Simpson is the chairman.

Section 24. (See 43)

Foreign Physicians Under Procurement and Assignment

DR. JOHN D. CARROLL, Rensselaer: At a recent meeting of the Medical Society of the County of Rensselaer we were given instructions to present this resolution:

"Resolved, that the Delegates representing the Medical Society of the County of Rensselaer of the State of New York put forward this resolution:

"Pursuant to Surgeon General Parran's editorial of recent date in the *Journal of the American Medical Association*, concerning the shortage of medical practitioners throughout the country and advocating the lessening of licensure restrictions in the case of foreign physicians, we of the Medical Society of the County of Rensselaer respectfully submit:

"Resolved, that (1) since the majority of said foreign doctors are engaged in the practice of medicine in the State of New York, the Office of Procurement and Assignment shall in the future select from among these same foreign doctors now practicing in this state physicians for practice in other states that meet with New York State's reciprocity laws;

"(2) All foreign physicians who have been licensed to practice in the United States be brought under the jurisdiction of the Procurement and Assignment Board, and, if they are not eligible for Army or Navy duty, they shall be placed in other governmental service for the duration of the war."
(Applause)

SPEAKER BAUER: This resolution will be referred to the Reference Committee on New Business C, of which Dr. Guess is the chairman, which has another resolution on the same subject.

Section 25. (See 40)

Connecticut State Medical Society, 150th Anniversary

DR. BENJAMIN M. BERNSTEIN, Kings: This resolution was unanimously passed by the Medical Society of the County of Kings:

"WHEREAS, the Medical Society of the State of Connecticut is celebrating the 150th anniversary of its founding at Middletown, Connecticut, on June 3 and 4, 1942; and

"WHEREAS, friendly relations between neighboring states particularly should always be maintained; be it

"Resolved, therefore, that two delegates of the Medical Society of the State of New York be sent as representatives to the Convention of the Medical Society of the State of Connecticut on the above-mentioned dates in order to join with them in the celebration of their 150th anniversary."

SPEAKER BAUER: This resolution will be referred to the Reference Committee on New Business C, of which Dr. Guess is the chairman.

Section 26. (See 37)

Women Physicians and the Medical Reserve Corps of the Army and Navy

DR. EMILY DUNNING BARRINGER, New York: This resolution was unanimously passed at the

"Resolved, that it is the opinion of this organization, the Syracuse Eye, Ear, Nose, and Throat Club, that the Rule of Ethics established in 1935 by vote of the House of Delegates not be rescinded; and be it further

"Resolved, that the Secretary be instructed to convey a copy of these resolutions to the Delegates of the New York State Medical Society, to the House of Delegates of the American Medical Association, and to such others as may be advisable, namely, the President of the American Academy of Ophthalmology, Dr. Ralph I. Lloyd, of Brooklyn, New York, and the Secretary of the Ophthalmological Section of the American Medical Association, Dr. Derrick Vail, of Cincinnati, Ohio."

SPEAKER BAUER: Inasmuch as this is on the same general topic as the resolution introduced by Dr. Bedell, it will be referred to the same Reference Committee, the Reference Committee on New Business C, of which Dr. Guess is chairman.

Section 19. (See 50)

Medical Relief, Direct Payment of Medical Fees to the Aged, the Blind, and Dependent Children

DR. WILLIAM TRAVIS GIBB, JR., *New York*: This is a similar resolution to that introduced a short while ago concerning the payment of physicians for medical care to the aged, the blind, and dependent children:

"WHEREAS, after April 1, 1941, checks from the Department of Welfare of the City of New York (Q. V. Form M. med 383 b) for the Medical Care of those patients entitled to Old Age Assistance and Blind Assistance will be issued directly to the recipients of the care and not to the doctors rendering it; and

"WHEREAS, this is patently unjust as it forces the physician to collect these fees from indigent people who may be unreliable; and

"WHEREAS, this is an example of the unfair advantages being taken of physicians; therefore be it

"Resolved, that the Medical Society of the County of New York go on record as being opposed to the proposed change in method of payment; and that the Society request the Department of Welfare to continue its former method of paying these physicians directly; and be it further

"Resolved, that this House of Delegates be instructed to vigorously protest this injustice, to record itself as being opposed to this procedure; and to have the Medical Society of the State of New York also request the Department of Welfare to pay those physicians directly, as heretofore; and be it also

"Resolved, that the Medical Society of the State of New York recommend to the American Medical Association to request the Government at Washington to alter that provision of the Social Security Law necessary to permit doctors to be paid directly."

SPEAKER BAUER: This resolution will be referred to the same Reference Committee as the previous one, namely, the Reference Committee on New Business B, of which Dr. Masterson is the chairman.

Section 20. (See 36)

Elimination of Required Certification of Checks in Payment of Tax Stamps for Opium Dispensing, etc.

DR. WALTER P. ANDERTON, *New York*: This resolution is introduced under the instructions of the Medical Society of the County of New York:

"WHEREAS, the physicians and surgeons who dispense or prescribe opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, are required by Federal law and regulations annually to purchase a special tax stamp for \$1.00; and

"WHEREAS, when payment of such dollar is made by check, it is required that such check be certified by the bank of payment; and

"WHEREAS, the Treasury Department of the United States of America accepts checks for larger amounts without requiring certification; therefore be it

"Resolved, that the Medical Society of the State of New York protests against the requirement that checks for purchase of special tax stamps in connection with dispensing and prescribing opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, are required to be certified; and be it further

"Resolved, that the delegates from the Medical Society of the State of New York to the House of Delegates of the American Medical Association are hereby instructed to introduce a resolution at the 1942 session embodying this protest, and urging the American Medical Association to take emphatic and persistent steps toward the elimination of the requirement for certification of checks previously mentioned in this resolution; and be it further

"Resolved, that copies of this resolution be sent to important local and national dentist, veterinary, pharmacist, manufacturing chemist, and banker organizations, inasmuch as members of such organizations are also affected by the unnecessary labor of certification of small checks."

SPEAKER BAUER: This resolution is referred to the Reference Committee on New Business A, of which Dr. Simpson is the chairman.

Section 21. (See 66)

"Walk a Block a Day"

DR. HARRY C. GUESS, *Erie*: This resolution was passed unanimously by the Erie County Medical Society:

"WHEREAS, the Medical Society of the County of Erie has passed resolutions advocating that walking a block a day is a good health measure; and

"WHEREAS, it is the duty of the medical profession to promulgate health measures for all people; and

"WHEREAS, there is great need, especially during these times, for better health and a stronger nation; and

"WHEREAS, it is possible for each component county society comprising the New York State Medical Society to advocate this health measure; therefore be it

SPEAKER BAUER This resolution will be referred to the Reference Committee on New Business A, of which Dr. Simpson is the chairman

Section 29. (See 48)

1943 Annual Meeting, Invitation to Buffalo

DR. GARTNER This is another resolution that was passed by the Medical Society of the County of Erie.

"WHEREAS, the 1941 Annual Meeting of the Medical Society of the State of New York was a great success in Buffalo; and

"WHEREAS, the President-elect, Dr. George W. Cottis, is a resident of Western New York; and

"WHEREAS, the Medical Society of the County of Erie would indeed deem it an honor and great pleasure to have its colleagues from the rest of the State meet in Buffalo; therefore be it

"Resolved, that the Medical Society of the County of Erie extend an invitation to the Medical Society of the State of New York to hold its 1943 Annual Meeting in Buffalo."

SPEAKER BAUER This resolution will be referred to the Reference Committee on New Business B, of which Dr. Masterson is the chairman

Are there any further resolutions?

(There was no response)

SPEAKER BAUER I ask you to bear in mind that you have adopted an amendment to the Bylaws providing that no resolution can be introduced in the final session except by authority of the House by a two-thirds vote. Furthermore, the final session will necessarily have to be as short as possible for, as I said earlier, we will have to be out of this room by three o'clock on Tuesday afternoon, so any of you who have resolutions please see that you have them ready to introduce either this afternoon or tomorrow morning, as they should not be introduced after that, except if a grave emergency arises.

If there are any reference committees that are short, due to the absence of their members, I wish they would see the secretary so that the vacancies may be filled.

The reference committees are meeting on the balcony, and, as I said before, I should like all officers and councilors to hold themselves in readiness to go before any reference committee that may desire their presence.

Please bear in mind what I said about the importance of visiting exhibits.

We will now take a recess until 3:00 P.M.

(At 11:30 A.M. a recess was taken)

Afternoon Session

April 27, 1942

The session convened at 3:10 P.M., pursuant to recess.

SPEAKER BAUER The House will be in order. Are there any reference committees ready to report?

Section 30 (See 4, 5)

Report of Reference Committee on Reports of President and President-Elect

DR. CARLTON E. WERTZ *Erie* The Committee on the Report of the President wishes to commend him for his splendid report and acknowledge his sacrificial devotion to his duty this past year. The Society surely owes him an expression of deepest gratitude for his splendid services. We believe, as he states that the time for talk and for discussion and argument is past. We must face facts.

His review of the activities of the Society and its numerous committees is timely, and we recommend that all of us familiarize ourselves with the reports as presented in the JOURNAL.

We feel that it is our duty to particularly call your attention to references in the report to the medical relief problem and the cooperation with the State Department of Social Welfare to the end that the best available care shall be given to both the indigent and the near-indigent.

We call your attention to the effort to break the legal expense of medical and hospital care and to the government's proposition to give medical and hospital care to its Social Security clients. We agree that deep study be given to these problems.

The financial problem of the remitting of dues

of those called to the service calls for a close scrutiny of the total expenses of the Society and that plans be made for a conservation wherever possible. We agree with the president when he says, "I would recommend the remission of dues to those physicians to whom, while in the service of their country with the Armed Forces, the payment of dues constitutes a burden and a hardship, and limit it to those that ask for it."

Part 2 of the report deals with trends in medical affairs and demands a most careful study by this Society. This is most timely, and we wish to earnestly call your attention to the problems set forth, such as:

A. The Federal Hospitalization Tax Program and its possible trend toward a system of state medicine.

B. The Federal Rehabilitation Program and its many trends toward state or federal medicine.

Your committee moves the adoption of this splendid report and recommends that attention to the pressing attention

DR. HERBERT B. SMITH, Steuben. I second the motion.

There being no discussion, the motion was put to a vote, and was unanimously carried.

SPEAKER BAUER Is that the full report of the committee?

DR. WERTZ No, I have reports on the supplementary address of the president and the address of the president-elect.

SPEAKER BAUER Proceed!

DR. WERTZ Reporting on the address of President Kopetzky to the House of Delegates the committee agrees with the thoughts expressed

last meeting of the Medical Society of the County of New York, on Monday evening, April 20, 1942:

"WHEREAS, during the past winter women physicians have been denied commissions in the Medical Reserve Corps of the United States Army, because of their sex, and in spite of outstanding personal and professional qualifications, as, for instance, in the case of a skilled anesthetist attached to a Base Hospital which was ordered into active service, and in this case the colonel in charge and the chief surgeon highly endorsed and desired that this woman be a member of the staff of this Base Hospital, and

"WHEREAS, during this past winter two American women physicians have received commissions in the Royal Army Medical Corps of the British Army, one as a Major and the other as a Lieutenant, and both have been assigned to military hospitals, and

"WHEREAS, the women physicians of the American Medical Association are a minority group, who, however, pay dues and take part in the activities of the Association, and turn to the Association for help in their problems of medical opportunities; and

"WHEREAS, there is no existing ruling that women are ineligible for the Medical Reserve Corps of the United States Army, while there is an existing ruling in the Navy, which could be removed by the proper authorities; and

"WHEREAS, at the last meeting of the House of Delegates of the Medical Society of the State of New York, the House went unanimously on record as approving that women physicians be admitted to the Medical Reserve Corps of the United States Army and Navy, and formally requested the American Medical Association to endorse their action, which was not accomplished; therefore be it

"Resolved, that the Delegates from New York County be instructed to ask the House of Delegates to go on record again this year, and ask the American Medical Association to aid one of its minority groups by endorsing and aiding women physicians in obtaining commissions in the Medical Reserve Corps of the United States Army and Navy."

I have just received, through Dr Ruth Ewing, the unanimous endorsement of this resolution by the Women's Medical Society of the State of New York at their executive session on Monday, April 27, 1942 (Applause)

SPEAKER BAUER: This resolution will be referred to the Reference Committee on New Business A, of which Dr Simpson is the chairman

Section 27. (See 67)

Discrimination in Employment of Minority Racial Groups

DR PETER MURRAY, *New York* I wish to introduce the following resolution:

"WHEREAS, the President of the United States has issued an executive order requiring fair employment practices on the part of all business firms holding government contracts; and

"WHEREAS, in order to enforce this order he has established the Fair Employment Practice Committee; and

"WHEREAS, this committee investigates charges of discrimination in employment against minority racial groups; and

"WHEREAS, this committee has charged the Becton-Dickinson Company with violation of this executive order, in that said company refuses employment to certain racial groups; therefore be it

"Resolved, that the New York State Medical Society delete Becton-Dickinson advertisements from its publication; and be it further

"Resolved, that the Editor of the New York State Medical Journal be instructed to editorialize this unfair practice; and be it also further

"Resolved, that the New York State Medical Society urge its members to withhold patronage from said firm until its unfair practices shall have ceased."

SPEAKER BAUER: This resolution will be referred to the Reference Committee on New Business B, of which Dr. Masterson is the chairman

Section 28. (See 38, 69)

Suggested New Subcommittee on Tuberculosis Control

DR. ALBERT A. GARTNER, *Erie* This is a resolution which the Medical Society of the County of Erie has instructed its delegates to introduce into this House.

"WHEREAS, the problem of tuberculosis control has never been attacked as intensively or as effectively as that of syphilis; and

"WHEREAS, the Commissioner of Health of the State of New York has recently instituted a campaign to eradicate tuberculosis from this State by the year 1960 and needs the combined efforts of the medical profession to insure the success of this project; and

"WHEREAS, tuberculosis is a highly contagious and yet preventable disease, and many possible sources from which it may be spread to healthy contacts are still existent; and

"WHEREAS, to effectively investigate these sources, such measures as routine tuberculin testing of older children, mass x-ray examination of those living in sections that have a high incidence of tuberculosis, routine (yearly) examination of food handlers, domestics, and school teachers, and more adequate care and supervision of the tuberculous and ex-tuberculous patient will be necessary; therefore be it

"Resolved, that an intensive educational program and campaign be instituted throughout the State under the auspices of the Medical Society of the State of New York to acquaint the general public and medical profession with the effective ways and means in the prevention and control of tuberculosis; and be it further

"Resolved, that a subcommittee on Tuberculosis Control to serve under the Council Committee of Public Health and Education or a separate committee be appointed; and be it further

"Resolved, that this Committee should cooperate with the Commissioner of Health and the various agencies interested in the problems of tuberculosis to institute such measures as will make this program effective, and that an offensive rather than a defensive campaign against the disease should be put into operation"

Council, Part II, desires to make the following report:

Under the heading *Chemotherapy Program*, your committee heartily endorses this portion of the report of the Council and urges continuation of this program.

Under the heading *Rheumatic Fever*, your committee endorses this program and also urges its continuance.

Under the heading of *Dental Health*, your reference committee urges continued study on the dental health program.

Under the heading *Industrial Health*, your committee endorses the work that has been done on this program, and, in view of the present emergency, we urge that this program be continued and expanded to meet the present needs.

Under the heading of *Maternal and Child Welfare*, your reference committee approves this portion of the report and also urges the continuation of the program.

Under the heading of *The 4-H Club and Youth Activities*, your committee approves the work done by Dr. Fred Hiss, chairman of the 4-H Club and Youth Activities, and urges the continuation of this work. Your committee is in accord with the plan of Dr. Hiss's committee to discard the old annual health contest because it has very little value.

Under the heading of *War Medicine and Surgery*, your reference committee approves and endorses the work done, and also wishes to add that under the direction of the Office of Civilian Defense, the Health Preparedness Commission of New York State, the State Health Department, the medical schools of New York State, and the Medical Society of New York State, this committee is planning to include in the activities of War Medicine and Surgery, emergency surgery, first-aid instructions, and chemical warfare instructions. Your reference committee feels that the addition of these latter groups of study are very necessary and essential at this particular time.

Under the heading *Venereal Disease Control*, your committee approves the recommendations as made.

Under the heading of *Tuberculosis Conference Committee*, your reference committee approves the report, and if you have the booklet in front of you, on page 639, of the April 1, 1942, reprint of the JOURNAL, you may follow me, for we desire to make a change in Part 7. In other words, your reference committee approves the report, except Parts 7 and 8. Part 7, as printed, reads:

"Patients, who, in the opinion of the health officer or his representative, for various reasons (contacts, etc.) should have a thorough physical examination including x-ray, as a part of the tuberculosis control program, should be rendered x-ray service without direct cost to themselves."

Your committee wishes to substitute for that the following:

"Only medically indigent patients or contacts referred by the family physician, who, in the opinion of the health officer or his representative, for various reasons (contacts, etc.) should have a thorough physical examination, including x-ray, as a part of the tuberculosis control program, should be rendered x-ray service without direct cost to themselves."

We should also like to amend Part 8 of the same report. At present it reads:

"All x-ray examinations at tuberculosis hospitals and clinics should be done without direct cost to the patients."

We should like to amend that to read as follows:

"All x-ray examinations at federal, state, or municipal hospitals should be done without direct cost to the patient."

SPEAKER BAUER: I think before we get any further we had better first approve certain portions of your report. The report so far has covered Chemotherapy, Rheumatic Fever, Dental Health, Industrial Health, Maternal and Child Welfare, 4-H Club and Youth Activities, War Medicine and Surgery, and Venereal Disease Control. Excluding the Tuberculosis Conference Committee, the report so far was merely approving what the Council committees had done and urging continuation of their efforts along the same lines. I suggest that you move the adoption of that portion of the report.

DR. DI NATALE: I so move.

. . . . The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried. . . .

SPEAKER BAUER: Now on the next section under Tuberculosis Conference Committee, the reference committee recommends two changes in Parts 7 and 8 of the Report. I think you might read those again, Dr. Di Natale, so that everybody will be clear as to what you mean.

DR. DI NATALE: Part 7 at present reads as follows:

"Patients, who, in the opinion of the health officer or his representative, for various reasons (contacts, etc.) should have a thorough physical examination, including x-ray, as a part of the tuberculosis control program, should be rendered x-ray service without direct cost to themselves."

Your committee would like to amend that to read as follows:

"Only medically indigent patients or contacts referred by the family physician, who, in the opinion of the health officer or his representative, for various reasons (contacts, etc.) should have a thorough physical examination, including x-ray, as a part of the tuberculosis control program, should be rendered x-ray service without direct cost to themselves."

I move the adoption of that substitution in the Council committee's report.

DR. ROBERT BRITAIN, Delaware: I second the motion.

SPEAKER BAUER: Is the motion clear? It amends the Council committee's report to provide that these examinations should be done without direct cost only on the recommendation of the family physician. Is there any discussion on that?

SECRETARY IRVING: It happens that I was the first representative of the State Society to sit on that Tuberculosis Conference Committee, and then Dr. Mitchell and Dr. Hambrook were later added. At the Council's request, we went over these things with great care. The reason that particular thing about indigency is not in it

so well and clearly, and would like to stress the fact that the Medical Society should be on guard so that any plans made now for the emergency should cease on demobilization.

We recommend that the president's remarks be printed in the JOURNAL, and I so move.

. . . . The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried. . . .

DR. WERTZ: Reporting on the address of President-Elect Cottis to the House of Delegates, the committee gave due consideration to the discussion of Dr. George W. Cottis, the president-elect. His remarks were pertinent to the problems of the day, and we recommend that his talk be printed in the JOURNAL. I so move.

. . . . The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried. . . .

DR. WERTZ: I now move that the report, as a whole, signed by the members of the committee, Herbert B. Smith, Stephen H. Curtis, J. Stanley Kenney, Dan Mellen, and Carlton E. Wertz, chairman, be adopted.

. . . . The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried. . . .

Section 31

Report of Reference Committee on Report of the Council—Part I: Postgraduate Education

DR. ALBERT F. R. ANDRESEN, *Kings*: The report is clear and concise and describes the amazing amount of work that Dr. Mitchell and his committee have accomplished in the past year in the field of postgraduate education. The publication of the *Course Outline Book*, and its distribution to all county medical societies, has greatly facilitated the carrying out of the program. Collaboration with the State Departments of Health and Labor has resulted in official recognition of the postgraduate courses and has brought some financial assistance. Courses of lectures were arranged for in twenty-seven County Medical Societies, with an average of 5.6 lectures per course, and in twenty-two of these courses the Society received financial assistance from the State Health Department because the subjects taught coincided with those considered of particular importance in the State Health Program. Maternal and Child Welfare was particularly emphasized during the past year, and Teaching Days were conducted in seven cities covering "regions" of the State. Teaching Days in Cancer and in Public Health were also conducted, and a three-day Postgraduate Institute was held at Rochester. A subcommittee on War Medicine and Surgery has begun to function, and Dr. Mitchell has reported to this committee that in collaboration with the Office of Civilian Defense, the State Health Department, the Health Preparedness Committee of New York State Legislature, the medical schools of the State of New York, and the Medical Society of the State of New York, there will be available within a few weeks courses in Emergency Surgery and Chemical Warfare that will enable physicians to cope with these emergencies and to give satisfactory courses to laymen in these subjects. It is to be hoped that County Medical Societies will avail themselves of these educational opportunities.

The report of the committee contains a note that more of the Society's funds have been expended than previously, a fact that should be emphasized and of which our Society should be very proud, as the work of this committee is not only of the utmost value to the members of our Society, but also to the entire population of our state. The Council and Dr. Mitchell's committee should be congratulated and thanked for the excellent and efficient work that has been accomplished.

I move the adoption of the committee's report.

. . . . The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried. . . .

SPEAKER BAUER: Thank you, Dr. Andresen!

Section 32. (See 6)

Report of Reference Committee on Report of the Council—Part VII: Legislation

DR. WALTER P. ANDERTON, *New York*: Your Reference Committee on Legislation commends heartily to our membership the unflinching and industrious efforts of your Committee on Legislation during the past year, and the splendid accomplishments of Dr. Joseph Lawrence, the secretary of that committee. During the 1942 Session of the New York State Legislature, we regret to say the x-ray bill was defeated. This would have made the use of x-rays for diagnostic or therapeutic purposes illegal, except in the hand of a duly licensed member of our profession. However, the Milmo Medical Grievance Committee Bill was passed. This will improve the functioning of the Grievance Committee, it is hoped.

On the other side of the ledger, we find that the perennial chiropractors bill was defeated in spite of very strong efforts in its behalf; and that several bills that were supported by your Committee on Legislation, such as the ones relative to testimony in regard to criminal abortions, licensing nurses registry bureaus, and physicians in Civil Service positions, have been passed by both the Assembly and the Senate and are now awaiting action by the Governor.

We take this opportunity to draw attention to the intelligent and sympathetic attitude which Governor Lehman has always shown toward problems affecting the health of the people in this state.

This report is signed by the committee, consisting of Walter P. Anderton, chairman, Eugene H. Coon, B. Wallace Hamilton, Leo E. Reimann, and Moses A. Stivers, and I move the adoption of the committee's report.

. . . . The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried. . . .

Section 33

Report of Reference Committee on Report of the Council—Part II: Public Health Activities, 4-H Club and Youth Activities, War Medicine and Surgery, Venereal Disease Control, Tuberculosis Conference Committee, Deaf and Hard of Hearing

DR. PETER J. DI NATALE, *Genesee*: Your Reference Committee on the Report of the

will find this feasible. However, the committee does not recommend any change in the quality of the present cover of the *JOURNAL*. The pertinent point is that the average cost of the *JOURNAL* to each member was 88 cents for 1941, as compared to 91 cents for 1940. It is your committee's opinion that the *JOURNAL* is one of the best investments made by any member of the Society.

The Publication Committee of the *Directory* has considered the cost and prospective revenue, and we think they are in the best position to judge about the immediate future publication of the *Directory*. Therefore, the reference committee feels that the opinion of the Council in the postponement temporarily of the publication of the *Directory* is a wise one. That it should not be too long delayed is likewise obvious, and the decision for its publication during this emergency would be most expediently considered from year to year by leaving the date of publication to the discretion of the Council. The *Directory* is one of the greatest practical aids to the physician of any available publication. How could we get along without it! Again, financially it is an excellent \$1.02 investment. Further, this cost is a saving over the previous volume, and all commendation is due to the Publication Committee.

SPEAKER BAUER: Inasmuch as your last recommendation involves an action which is different from that the House ordered a year ago, I think we should stop at that portion of your report and act on it before proceeding to the next subdivision.

DR. EGGSTON: I move the adoption of that portion of the reference committee's report.

DR. JAMES GREENOUGH, Olsego: I second the motion.

SPEAKER BAUER: This portion of the reference committee's report is before you for adoption. It includes a recommendation to postpone the publication of the *Directory*. The House originally directed that a *Directory* should come out this coming fall, and if the recommendation of the reference committee is adopted, it will necessarily delay such publication for a period of at least six months by action of the Council. If you approve of the recommendation of the reference committee, you will likewise approve of the action of the Council in delaying publication of the *Directory* because of the war situation. Is there any discussion?

DR. HARRY ARANOW, Bronx: Does that recommendation also encompass the thought that the Council, if it sees fit, can also delay the further publication of the *Directory*?

SPEAKER BAUER: Yes, it also recommends that the date of publication of the *Directory* be left to the Council in the immediate future.

Is there any further discussion on the motion?
 There were calls for the question, so the motion was put to a vote, and was carried. . . .

DR. EGGSTON: In regard to medical publicity both on the radio and in the newspapers, there were many interesting subjects discussed and special attention is called to the article, "The Role of the Doctors in Defense," by Colonel Samuel J. Kopetzky, as well as other valuable contributions by this author. It is unfortunate that the radio broadcast has to be discontinued or curtailed because of the cost and the lack of a satisfactory sponsor, and we trust some means will

be forthcoming to resume this service to the public.

In relation to newspapers, the committee urges a further cooperation with all the newspapers of the state for releases of accurate and timely editorials and discussion of medical subjects of public interest. Too much stress cannot be placed upon the value of such discussions. In fact, there should be a committee of physicians and editorial writers in each county of the state to cooperate as an editorial board for the release of medical information to the public. This would avoid much misunderstanding and the publication of wrong information about physicians and medical subjects. The committee knows of no better way to reach the public than through a perfect understanding with the newspapers.

Postgraduate medical education has received excellent stimulation and cooperation from the State Society in the past year under able leadership. The establishment of refresher courses upon timely subjects should be further extended to encourage every county of the state. There are wonderful institutions of medical teaching throughout the state that should continue to be encouraged to offer refresher courses to the members of the Society.

The committee likewise thinks that the issuance of bulletins of the club talk series type is to be commended and continued, as they have been quite popular and extremely useful. It would be of interest to know the number of these sent to members and the cost.

The results of the Public Relations Committees of our county, state, and national societies have been at best intangible and from a practical purpose, a disappointment. However, these efforts may have delayed compulsory health insurance. But in the face of it all, the profession stands convicted as a trust, with the future of medicine most uncertain. This is in spite of the earnest and unselfish efforts of the many conscientious men serving on these committees. Perhaps the very modesty of our profession prevents the use of more militant tactics to protect our economy. The accomplishments of the medical profession to influence the trends of medicine pale when compared to the gain of labor groups, who in the opinion of high authority have not always bothered much about public relations.

Influencing people and making friends by talking and propaganda is one thing, but after this global war, it is apparent that more direct and positive methods will be needed to safeguard medical care.

It seems that our relations to the public are like an earless boat drifting down the Niagara River, soon to drop over the falls of Socialized Medicine. At present, there is no anchorage in sight, and because of the present war trends, no lifesaver appears on the shores. What has influenced the public in our favor has been done by . . . disease and the un- . . . services to our patients . . . of illness. Politically and economically, we have been more or less helpless in changing the unpredictable drift of our profession. However, your Bureau of Public Relations is alert. The report of the Council presents the subject so concisely, your reference committee wishes to quote as follows:

"It is essential that public relations work be

already is that the x-ray part of it was stressed to such an extraordinary extent as the main thing necessary, and we wanted to see that everybody got his x-ray, indigent or not indigent.

I am perfectly willing to accept that modification of Part 7, since the idea has already gone forth that the x-ray is important. I think I approve of it.

SPEAKER BAUER: Is there any other discussion?

... There being no further discussion, the motion was put to a vote and was unanimously carried.

DR. DI NATALE: Part 8, which I previously read as it at present appears in the Council committee's report, is:

"All x-ray examinations at tuberculosis hospitals and clinics should be done without direct cost to the patients."

Your Committee felt that that should be amended to read as follows:

"All x-ray examinations at federal, state, or municipal hospitals should be done without direct cost to the patient."

I move the adoption of the reference committee's recommendation.

DR. BRITTAIN: I will second that.

SPEAKER BAUER: You have the recommendation of the reference committee that Part 8 will be amended to permit examination without direct cost to the patient only at federal, state, and municipal controlled institutions.

Is there any discussion on that?

DR. EDWARD P. FLOOD, *Bronx*: I would like to raise a question of verbiage. In New York City it is the health centers that do most of the control examinations. Dr. Di Natale mentions municipal hospitals, but in New York City they play little part in the control of contacts.

SPEAKER BAUER: Do you wish to suggest any change, Dr. Flood?

DR. FLOOD: I suggest a change in phraseology to include municipal health facilities as well as the municipal hospitals.

SPEAKER BAUER: Is that satisfactory to you? Is there any objection to that amendment being accepted?

DR. DI NATALE: No, the committee is willing to include that in its recommendation.

SPEAKER BAUER: There being no objection that will be made a part of the committee's report.

DR. DI NATALE: The committee's substitution, as thus amended, and accepted by the reference committee, will now read:

"All x-ray examinations at federal, state, or municipal hospitals, including municipal health facilities, should be done without direct cost to the patient."

DR. LYMAN C. LEWIS, *Allegany*: For a point of information, the state tuberculosis hospitals are at present holding clinics outside of the hospitals in which patients are admitted for x-ray examination. If this resolution says "municipal hospitals," is that intended to include those clinics run by the state?

DR. DI NATALE: Yes.

... There being no further discussion, the motion was put to a vote, and was unanimously carried.

DR. DI NATALE: Your committee heartily endorses the work of the Tuberculosis Conference Committee.

Under the heading of *The Deaf and Hard of Hearing*, your committee urges the endorsing and approval of the work done, and urges that it be continued.

I move the recommendation of the committee.

... The motion was seconded, and as there was no discussion, the motion was put to a vote, and was unanimously carried.

DR. DI NATALE: Now I move the adoption of the report, as amended, which amendment was accepted by the reference committee, as a whole.

... The motion was seconded, and as there was no discussion, the motion was put to a vote, and was unanimously carried.

SPEAKER BAUER: Thank you, Dr. Di Natale!

DR. GEORGE S. KOSMAK, *New York*: I believe the reference committee, either advertently or inadvertently, left out any comment on that section of this report devoted to venereal disease control.

SPEAKER BAUER: No, that was covered in the first section of the report. They recommended approval of what had been done and the continuation of activities along the same line.

DR. KOSMAK: Thank you!

Section 34

Report of Reference Committee on Report of the Council—Part IV: Publications and Medical Publicity

DR. ANDREW A. EGGSTON, *Westchester*: The appearance, composition, editorials, text, and in general the JOURNAL of the Society has been greatly improved, and is a distinct credit to the Medical Society of the State of New York. As is befitting the JOURNAL, it has published matters of practical interest to the general practitioner and important personal and economical news of its various constituted county societies. It would indeed be very pleasing, however, if some original scientific papers were published which tend to enhance its reputation as a medium for research work.

From a financial standpoint, it is interesting to note that there has been a decided improvement over 1941. Special attention is called to the installation of the new system of collections in 1941. As a result, on February 15, 1942, there remained unpaid on 1941 business the sum of \$140.70 of a total billing of \$71,485.47. There are many similar financial improvements, such as the decrease in authors' alteration costs, the raising of advertising rates, and a decrease in cash discounts. Also, there was a steady increase in gross income, from \$50,278.11 in 1939, to \$71,485.47 in 1941. There is a pleasant and noteworthy increase of advertising contracts from March 1, 1941, of \$69,867.00, to \$73,668.70 on February 16, 1942. This stability in medical advertising is very interesting and essential. It reflects credit upon the financial management of the JOURNAL. The report contains many other items of economy. Foresight has been exercised in the purchase of paper at favorable costs. Your reference committee is in accord with the idea of mailing the JOURNAL without wrappers. This would effect a saving of approximately \$1,500, and we trust the Publication Committee

will find this feasible. However, the committee does not recommend any change in the quality of the present cover of the JOURNAL. The pertinent point is that the average cost of the JOURNAL to each member was 88 cents for 1941, as compared to 91 cents for 1940. It is your committee's opinion that the JOURNAL is one of the best investments made by any member of the Society.

The Publication Committee of the *Directory* has considered the cost and prospective revenue, and we think they are in the best position to judge about the immediate future publication of the *Directory*. Therefore, the reference committee feels that the opinion of the Council in the postponement temporarily of the publication of the *Directory* is a wise one. That it should not be too long delayed is likewise obvious, and the decision for its publication during this emergency would be most expediently considered from year to year by leaving the date of publication to the discretion of the Council. The *Directory* is one of the greatest practical aids to the physician of any available publication. How could we get along without it! Again, financially it is an excellent \$1.02 investment. Further, this cost is a saving over the previous volume, and all commendation is due to the Publication Committee.

SPEAKER BAUER: Inasmuch as your last recommendation involves an action which is different from that the House ordered a year ago, I think we should stop at that portion of your report and act on it before proceeding to the next subdivision.

DR. EGGSTON: I move the adoption of that portion of the reference committee's report.

DR. JAMES GREENOUGH, *Olsego*: I second the motion.

SPEAKER BAUER: This portion of the reference committee's report is before you for adoption. It includes a recommendation to postpone the publication of the *Directory*. The House originally directed that a *Directory* should come out this coming fall, and if the recommendation of the reference committee is adopted, it will necessarily delay such publication for a period of at least six months by action of the Council. If you approve of the recommendation of the reference committee, you will likewise approve of the action of the Council in delaying publication of the *Directory* because of the war situation. Is there any discussion?

DR. HARRY ARANOW, *Bronx*: Does that recommendation also encompass the thought that the Council, if it sees fit, can also delay the further publication of the *Directory*?

SPEAKER BAUER: Yes, it also recommends that the date of publication of the *Directory* be left to the Council in the immediate future.

Is there any further discussion on the motion?
... There were calls for the question, so the motion was put to a vote, and was carried. ...

DR. EGGSTON: In regard to medical publicity both on the radio and in the newspapers, there were many interesting subjects discussed and special attention is called to the article, "The Role of the Doctors in Defense," by Colonel Samuel J. Kopetzky, as well as other valuable contributions by this author. It is unfortunate that the radio broadcast has to be discontinued or curtailed because of the cost and the lack of a satisfactory sponsor, and we trust some means will

be forthcoming to resume this service to the public.

In relation to newspapers, the committee urges a further cooperation with all the newspapers of the state for releases of accurate and timely editorials and discussion of medical subjects of public interest. Too much stress cannot be placed upon the value of such discussions. In fact, there should be a committee of physicians and editorial writers in each county of the state to cooperate as an editorial board for the release of medical information to the public. This would avoid much misunderstanding and the publication of wrong information about physicians and medical subjects. The committee knows of no better way to reach the public than through a perfect understanding with the newspapers.

Postgraduate medical education has received excellent stimulation and cooperation from the State Society in the past year under able leadership. The establishment of refresher courses upon timely subjects should be further extended to encourage every county of the state. There are wonderful institutions of medical teaching throughout the state that should continue to be encouraged to offer refresher courses to the members of the Society.

The committee likewise thinks that the issuance of bulletins of the club talk series type is to be commended and continued, as they have been quite popular and extremely useful. It would be of interest to know the number of these sent to members and the cost.

The results of the Public Relations Committees of our county, state, and national societies have been at best intangible and from a practical purpose, a disappointment. However, these efforts may have delayed compulsory health insurance. But in the face of it all, the profession stands convicted as a trust, with the future of medicine most uncertain. This is in spite of the earnest and unselfish efforts of the many conscientious men serving on these committees. Perhaps the very modesty of our profession prevents the use of more militant tactics to protect our economy. The accomplishments of the medical profession to influence the trends of medicine pale when compared to the gain of labor groups, who in the opinion of high authority have not always bothered much about public relations.

Influencing people and making friends by talking and propaganda is one thing, but after this global war, it is apparent that more direct and positive methods will be needed to safeguard medical care.

It seems that our relations to the public are like an earless boat drifting down the Niagara River, soon to drop over the falls of Socialized Medicine. At present, there is no anchorage in sight, and because of the present war trends, no lifesaver appears on the shores. What has influenced the public in our favor has been done by the scientific prevention of disease and the unselfish and sympathetic services to our patients during distressing moments of illness. Politically and economically, we have been more or less helpless in changing the unpredictable drift of our profession. However, your Bureau of Public Relations is alert. The report of the Council presents the subject so concisely, your reference committee wishes to quote as follows:

"It is essential that public relations work be

continued throughout the war period. This is necessary to fulfill one of the purposes for which the Society exists, as stated in the Constitution: 'To enlighten and direct public opinion in regard to the problems of medicine and health for the best interests of the people of the State.' But continued public relations activity is also advisable for practical and utilitarian reasons. At the conclusion of the war, there will be a problem of unemployment the like of which this country has never seen. We shall find fixed upon the social order certain government policies of control over business, industry, and medicine, controls relinquished to the government willingly by the people because of the extremity of military needs, but which will not be ceded back to industry, business, medicine, and the people, without a battle for the preservation of individualism. This fight on behalf of medicine can only be waged in the forum of public opinion through a public relations bureau which has not been allowed to languish, but has continued to function, though on a restricted and rationed diet. We should keep up contacts with key persons, retaining the ear of the public and maintaining a mailing list, which will be invaluable in building public opinion at a future time when a public relations bureau may very well be the crucial factor in determining vital issues."

It is apparent to the committee that the efforts of this bureau be continued and should be augmented, as the judgment of the bureau deems wise.

Under the item "New Recommendations," this committee wishes to offer to the House of Delegates the serious consideration of a plan for the compilation of historical data, manuscripts, archives, biographic sketches, memoirs, scientific and practical contributions of this Society during this unprecedented war period.

Perhaps from time to time it would be opportune to publish some of the interesting historical events, ultimately to be followed by a final publication of a complete history of the contributions of the medical profession of the State of New York in this historical era.

I move the adoption of this portion of the report.

... The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

DR. EGGSTON: Now the reference committee, consisting of Andrew A. Eggston, chairman, Albert A. Cinelli, James Greenough, Charles A. Anderson, and William A. MacVay, moves the adoption of this report as a whole.

... The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

Section 35. (See 23)

Report of Reference Committee on New Business A—Waiving of Penalties for Failure to Attend Hospital Staff Meetings

DR. LEO F. SIMPSON, *Monroe*: On the resolution introduced by Dr. Harold B. Davidson, of the Medical Society of the County of New York, reading:

"WHEREAS, the duties of physicians working

in hospitals will increase greatly during the war; therefore be it

"Resolved, that the American Medical Association, the American College of Surgeons, and other national organizations, be petitioned to waive penalties to hospitals or doctors for failure to attend staff meetings in hospitals for the duration of the war and six months thereafter.

"On motion, this resolution was passed, and it was voted to refer the matter to the Coordinating Council and to instruct the Delegates of the Medical Society of the County of New York to introduce this resolution at the next meeting of the House of Delegates of the Medical Society of the State of New York."

your committee recommends that no action be taken on this resolution at this time.

... The motion was seconded.

SPEAKER BAUER: You have before you the committee's recommendation that no action be taken on this resolution at this time. Is there any discussion?

DR. HAROLD B. DAVIDSON, *New York*: The resolution was adopted by the county society because of the fact that with the tremendous amount of work that the doctors have to do during the war emergency, which will ever be increasing, such a requirement could very easily be let down. We were wondering what was the reason for the committee's recommendation that no action be taken on this resolution at this time.

DR. SIMPSON: The committee felt that this was rather a blanket petition, which did not seem necessary at this time. It was felt that these regulatory bodies would, no doubt, take into consideration all factors before taking any disciplinary measures during this war period.

SPEAKER BAUER: Is there other discussion? If not, all those in favor of the adoption of the reference committee's report, which carries with it no action on the resolution, will say "Aye"; those opposed, "No." The chair is in doubt. All those in favor of the adoption of the committee's report, which carries with it no action on the resolution, will please arise.

... All but about twenty-five arose.

SPEAKER BAUER: The motion is carried, and the report of the reference committee is adopted, which carries with it no action on the resolution.

Section 36. (See 20)

Report of Reference Committee on New Business A—Elimination of Required Certification of Checks in Payment of Tax Stamps for Opium Dispensing, Etc.

DR. SIMPSON: On the resolution introduced by Dr. W. P. Anderton, of the Medical Society of the County of New York, reading:

"WHEREAS the physicians and surgeons who dispense or prescribe opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, are required by federal law and regulations annually to purchase a special tax stamp for \$1.00; and

"WHEREAS, when payment of such dollar is made by check, it is required that such check be certified by the bank of payment; and

"WHEREAS, the Treasury Department of the

United States of America accepts checks for larger amounts without requiring certification; therefore be it

"Resolved, that the Medical Society of the State of New York protests against the requirement that checks for purchase of special tax stamps in connection with dispensing and prescribing opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, are required to be certified; and be it further

"Resolved, that the delegates from the Medical Society of the State of New York to the House of Delegates of the American Medical Association are hereby instructed to introduce a resolution at the 1942 session embodying this protest, and urging the American Medical Association to take emphatic and persistent steps toward the elimination of the requirement for certification of checks previously mentioned in this resolution; and be it further

"Resolved, that copies of this resolution be sent to important local and national dentist, veterinary, pharmacist, manufacturing chemist, and banker organizations, inasmuch as members of such organizations are also affected by the unnecessary labor of certification of small checks."

your committee recommends the approval of this resolution, and I so move.

... The motion was seconded

SPEAKER BAUER: You have before you the adoption of the committee's report recommending in substance approval of this resolution, which urges that steps be taken to make it unnecessary to certify checks for the purchase of narcotic stamp taxes, when checks for other taxes and government obligations are not required to be certified. Is there any discussion?

The question was called for, and the motion was put to a vote, and was unanimously adopted.

Section 37. (See 26)

Report of Reference Committee on New Business A—Women Physicians and the Medical Reserve Corps of the Army and Navy

DR SIMPSON: On the resolution introduced by Dr Emily Dunning Barringer, of the Medical Society of the County of New York, concerning the woman physician in the Medical Reserve Corps of the United States Army and Navy, reading:

"WHEREAS, during the past winter women physicians have been denied commissions in the Medical Reserve Corps of the United States Army, because of their sex, and in spite of outstanding personal and professional qualifications, as for instance in the case of a skilled anesthetist attached to a base hospital which was ordered into active service, and in this case the colonel in charge and the chief surgeon highly endorsed and desired that this woman be a member of the staff of this base hospital, and

"WHEREAS, during this past winter two American women physicians have received commissions in the Royal Army Medical Corps of the British Army, one as a Major and

the other as a Lieutenant, and both have been assigned to military hospitals; and

"WHEREAS, the women physicians of the American Medical Association are a minority group, who, however, pay dues and take part in the activities of the Association, and turn help in their problems of and

"WHEREAS, there is no existing ruling that women are ineligible to the Medical Reserve Corps of the United States Army, while there is an existing ruling in the Navy, which could be removed by the proper authorities, and

"WHEREAS, at the last meeting of the House of Delegates of the Medical Society of the State of New York, the House went unanimously on record as approving that women physicians be admitted to the Medical Reserve Corps of the United States Army and Navy, and formally requested the American Medical Association to endorse their action, which was not accomplished, therefore be it

"Resolved, that the delegates from New York County be instructed to ask the House of Delegates to go on record again this year and ask the American Medical Association to aid one of its minority groups by endorsing and aiding women physicians in obtaining commissions in the Medical Reserve Corps of the United States Army and Navy,"

the Committee recommends the approval of this resolution, and I so move.

... The motion was seconded

SPEAKER BAUER: You have before you the report of the reference committee recommending approval of the resolution, which in effect reiterates the stand taken by the House last year urging that women physicians be made eligible for commissions in the Medical Corps of the Army and Navy. Is there any discussion on the report? If not, all in favor of its adoption say "Aye"; contrary, "No" The chair is in doubt. Will all those in favor of its adoption please rise? Now those opposed will rise

... All the delegates were in favor of the adoption of the reference committee's report except five.

SPEAKER BAUER: The motion is carried, and the report of the reference committee and the resolution are adopted

Section 38 (See 28, 69)

Report of Reference Committee on New Business A—Suggested New Subcommittee on Tuberculosis Control

DR SIMPSON: This resolution reads

"WHEREAS, the problem of tuberculosis control has never been attacked as intensively or as effectively as that of syphilis, and

"WHEREAS, the Commissioner of Health of the State of New York has recently instituted a campaign to eradicate tuberculosis from this state by the year 1960 and needs the combined efforts of the medical profession to insure the success of this project; and

"WHEREAS, tuberculosis is a highly contagious and yet preventable disease, and many possible sources from which it may be spread to healthy contacts are still existent, and

"WHEREAS, to effectively investigate these sources, such measures as routine tuberculin

continued throughout the war period. This is necessary to fulfill one of the purposes for which the Society exists, as stated in the Constitution: 'To enlighten and direct public opinion in regard to the problems of medicine and health for the best interests of the people of the State.' But continued public relations activity is also advisable for practical and utilitarian reasons. At the conclusion of the war, there will be a problem of unemployment the like of which this country has never seen. We shall find fixed upon the social order certain government policies of control over business, industry, and medicine, controls relinquished to the government willingly by the people because of the extremity of military needs, but which will not be ceded back to industry, business, medicine, and the people, without a battle for the preservation of individualism. This fight on behalf of medicine can only be waged in the forum of public opinion through a public relations bureau which has not been allowed to languish, but has continued to function, though on a restricted and rationed diet. We should keep up contacts with key persons, retaining the ear of the public and maintaining a mailing list, which will be invaluable in building public opinion at a future time when a public relations bureau may very well be the crucial factor in determining vital issues."

It is apparent to the committee that the efforts of this bureau be continued and should be augmented, as the judgment of the bureau deems wise.

Under the item "New Recommendations," this committee wishes to offer to the House of Delegates the serious consideration of a plan for the compilation of historical data, manuscripts, archives, biographic sketches, memoirs, scientific and practical contributions of this Society during this unprecedented war period.

Perhaps from time to time it would be opportune to publish some of the interesting historical events, ultimately to be followed by a final publication of a complete history of the contributions of the medical profession of the State of New York in this historical era.

I move the adoption of this portion of the report.

... The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

DR. EGGSTON: Now the reference committee, consisting of Andrew A. Eggston, chairman, Albert A. Cinelli, James Greenough, Charles A. Anderson, and William A. MacVay, moves the adoption of this report as a whole.

... The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried.

Section 35. (See 23)

Report of Reference Committee on New Business A—Waiving of Penalties for Failure to Attend Hospital Staff Meetings

DR. LEO F. SIMPSON, *Monroe*: On the resolution introduced by Dr. Harold B. Davidson, of the Medical Society of the County of New York, reading:

"WHEREAS, the duties of physicians working

in hospitals will increase greatly during the war; therefore be it

"Resolved, that the American Medical Association, the American College of Surgeons, and other national organizations, be petitioned to waive penalties to hospitals or doctors for failure to attend staff meetings in hospitals for the duration of the war and six months thereafter.

"On motion, this resolution was passed, and it was voted to refer the matter to the Coordinating Council and to instruct the Delegates of the Medical Society of the County of New York to introduce this resolution at the next meeting of the House of Delegates of the Medical Society of the State of New York."

your committee recommends that no action be taken on this resolution at this time.

... The motion was seconded.

SPEAKER BAUER: You have before you the committee's recommendation that no action be taken on this resolution at this time. Is there any discussion?

DR. HAROLD B. DAVIDSON, *New York*: The resolution was adopted by the county society because of the fact that with the tremendous amount of work that the doctors have to do during the war emergency, which will ever be increasing, such a requirement could very easily be let down. We were wondering what was the reason for the committee's recommendation that no action be taken on this resolution at this time.

DR. SIMPSON: The committee felt that this was rather a blanket petition, which did not seem necessary at this time. It was felt that these regulatory bodies would, no doubt, take into consideration all factors before taking any disciplinary measures during this war period.

SPEAKER BAUER: Is there other discussion? If not, all those in favor of the adoption of the reference committee's report, which carries with it no action on the resolution, will say "Aye"; those opposed, "No." The chair is in doubt. All those in favor of the adoption of the committee's report, which carries with it no action on the resolution, will please arise.

... All but about twenty-five arose.

SPEAKER BAUER: The motion is carried, and the report of the reference committee is adopted, which carries with it no action on the resolution.

Section 36. (See 20)

Report of Reference Committee on New Business A—Elimination of Required Certification of Checks in Payment of Tax Stamps for Opium Dispensing, Etc.

DR. SIMPSON: On the resolution introduced by Dr. W. P. Anderton, of the Medical Society of the County of New York, reading:

"WHEREAS the physicians and surgeons who dispense or prescribe opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, are required by federal law and regulations annually to purchase a special tax stamp for \$1.00; and

"WHEREAS, when payment of such dollar is made by check, it is required that such check be certified by the bank of payment; and

"WHEREAS, the Treasury Department of the

United States of America accepts checks for larger amounts without requiring certification; therefore be it

"Resolved, that the Medical Society of the State of New York protests against the requirement that checks for purchase of special tax stamps in connection with dispensing and prescribing opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, are required to be certified; and be it further

"Resolved, that the delegates from the Medical Society of the State of New York to the House of Delegates of the American Medical Association are hereby instructed to introduce a resolution at the 1942 session embodying this protest, and urging the American Medical Association to take emphatic and persistent steps toward the elimination of the requirement for certification of checks previously mentioned in this resolution; and be it further

"Resolved, that copies of this resolution be sent to important local and national dentist, veterinary, pharmacist, manufacturing chemist, and banker organizations, inasmuch as members of such organizations are also affected by the unnecessary labor of certification of small checks,"

your committee recommends the approval of this resolution, and I so move.

... The motion was seconded.

SPEAKER BAUER: You have before you the adoption of the committee's report recommending in substance approval of this resolution, which urges that steps be taken to make it unnecessary to certify checks for the purchase of narcotic stamp taxes, when checks for other taxes and government obligations are not required to be certified. Is there any discussion?

... The question was called for, and the motion was put to a vote, and was unanimously adopted.

Section 37. (See 26)

Report of Reference Committee on New Business A—Women Physicians and the Medical Reserve Corps of the Army and Navy

DR. SIMPSON: On the resolution introduced by Dr. Emily Dunning Barringer, of the Medical Society of the County of New York, concerning the woman physician in the Medical Reserve Corps of the United States Army and Navy, reading:

"WHEREAS, during the past winter women physicians have been denied commissions in the Medical Reserve Corps of the United States Army, because of their sex, and in spite of outstanding personal and professional qualifications, as for instance in the case of a skilled anesthetist attached to a base hospital which was ordered into active service, and in this case the colonel in charge and the chief surgeon highly endorsed and desired that this woman be a member of the staff of this base hospital; and

"WHEREAS, during this past winter two American women physicians have received commissions in the Royal Army Medical Corps of the British Army, one as a Major and

the other as a Lieutenant, and both have been assigned to military hospitals; and

"WHEREAS, the women physicians of the American Medical Association are a minority group, who, however, pay dues and take part in the activities of the Association, and turn to the Association for help in their problems of medical opportunities; and

"WHEREAS, there is no existing ruling that women are ineligible to the Medical Reserve Corps of the United States Army, while there is an existing ruling in the Navy, which could be removed by the proper authorities; and

"WHEREAS, at the last meeting of the House of Delegates of the Medical Society of the State of New York, the House went unanimously on record as approving that women physicians be admitted to the Medical Reserve Corps of the United States Army and Navy, and formally requested the American Medical Association to endorse their action, which was not accomplished; therefore be it

"Resolved, that the delegates from New York County be instructed to ask the House of Delegates to go on record again this year and ask the American Medical Association to aid one of its minority groups by endorsing and aiding women physicians in obtaining commissions in the Medical Reserve Corps of the United States Army and Navy,"

the Committee recommends the approval of this resolution, and I so move.

... The motion was seconded.

SPEAKER BAUER: You have before you the report of the reference committee recommending approval of the resolution, which in effect reiterates the stand taken by the House last year urging that women physicians be made eligible for commissions in the Medical Corps of the Army and Navy. Is there any discussion on the report? If not, all in favor of its adoption say "Aye"; contrary, "No." The chair is in doubt. Will all those in favor of its adoption please rise? Now those opposed will rise.

... All the delegates were in favor of the adoption of the reference committee's report except five.

SPEAKER BAUER: The motion is carried, and the report of the reference committee and the resolution are adopted.

Section 38. (See 28, 69)

Report of Reference Committee on New Business A—Suggested New Subcommittee on Tuberculosis Control

DR. SIMPSON: This resolution reads:

"WHEREAS, the problem of tuberculosis control has never been attacked as intensively or as effectively as that of syphilis; and

"WHEREAS, the Commissioner of Health of the State of New York has recently instituted a campaign to eradicate tuberculosis from this state by the year 1960 and needs the combined efforts of the medical profession to insure the success of this project; and

"WHEREAS, tuberculosis is a highly contagious and yet preventable disease, and many possible sources from which it may be spread to healthy contacts are still existent; and

"WHEREAS, to effectively investigate these sources, such measures as routine tuberculin

testing of older children, mass x-ray examination of those living in sections that have a high incidence of tuberculosis, routine (yearly) examination of food handlers, domestics, and school teachers, and more adequate care and supervision of the tuberculous and ex-tuberculous patient will be necessary; therefore be it

"Resolved, that an intensive educational program and campaign be instituted throughout the state under the auspices of the Medical Society of the State of New York to acquaint the general public and medical profession with the effective ways and means in the prevention and control of tuberculosis; and be it further

"Resolved, that a subcommittee on tuberculosis control to serve under the Council Committee of Public Health and Education or a separate committee be appointed; and be it further

"Resolved, that this committee should cooperate with the Commissioner of Health and the various agencies interested in the problem of tuberculosis to institute such measures as will make this program effective, and that an offensive rather than a defensive campaign against the disease should be put into operation."

Your committee recommends the disapproval of this resolution on the ground that this function is now adequately cared for by the Council Subcommittee on Public Health and Education.

I move the adoption of the committee's recommendation.

... The motion was seconded. ...

SPEAKER BAUER: You have before you the report of the reference committee, which recommends disapproval of the resolution on the ground that the matter is now being adequately cared for by the present Council Committee on Medical Education. Is there any discussion?

DR. LEO F. SCHIFF, *Clinton*: It seems hard for me to believe that the committee actually disapproves of the whole resolution. The clause apparently to which they take exception is the one directing the appointment of a special subcommittee. I do not believe that the majority of the members of this House of Delegates want the State Society to put itself in the position of being misunderstood. I think we can approve of this resolution if that final clause is left out, or the final two clauses are deleted.

I will move you as an amendment to this motion that this resolution be approved, with the omission of this particular clause:

"Resolved, that a subcommittee on tuberculosis control to serve under the Council Committee on Public Health and Education or a separate committee be appointed,"

and the substitution in the last paragraph which begins:

"Resolved, that this committee should cooperate," and so on,
of the following:

"Resolved, that this Committee of Public Health should continue to cooperate," etc.,

thereby giving thought and effect to the motion which I personally believe is in accord with the wishes of this House; in other words, deleting the clause that directs the appointment of a subcommittee and stating that, instead of our

cooperating, the thought that we have been cooperating and we shall continue to cooperate with the Commissioner of Health and the various agencies interested in the problem of tuberculosis.

SPEAKER BAUER: Your motion is not properly an amendment to the original motion, but is a substitute motion. The committee recommended rejection of the resolution. If you wish to move as a substitute motion that the resolution be adopted with the deletion of the clause providing for the separate subcommittee and directing that the Council committee continue to cooperate, I will accept that as a substitute.

DR. SCHIFF: Yes, that is my thought, Mr. Speaker.

SPEAKER BAUER: Does anybody second the substitute motion?

DR. WILLIAM H. ROSS, *Past-President*: I will second that substitute motion.

SPEAKER BAUER: The question before the House is on the adoption of the substitute motion in place of the motion of the committee chairman. Is there any discussion on the substitution of Dr. Schiff's motion for Dr. Simpson's?

DR. W. GUERNSEY FREY, Jr., *Queens*: I don't believe it is very clear to all the members of the House just what Dr. Schiff intends by his substitute motion. Might not Dr. Schiff accept a suggestion that this be referred back to the reference committee for further study and later report?

DR. SCHIFF: Yes, that would be agreeable to me.

DR. ROSS: I have no objection to its being recommitted to the reference committee.

SPEAKER BAUER: Do you so move?

DR. FREY: Yes.

DR. SCHIFF: I will second that.

SPEAKER BAUER: Dr. Frey moves to recommit the resolution to the reference committee for further study and report. Is there any discussion on the motion to recommit?

SECRETARY IRVING: I think an explanation of how the Medical Society of the State of New York became involved in the present Conference Committee on Tuberculosis is in order.

That was started up by an agreement among the Commissioner of Health, the Commissioner of Mental Hygiene, the Commissioner of Welfare, the State Charities Aid, and the Metropolitan Life Insurance Company. At the end of 1940, I received personally a request from the Commissioner of Health to serve on that conference committee as a representative of the Medical Society. Very shortly thereafter I requested, with the approval of the Council, that the committee consider the addition of Dr. Mitchell, as chairman of our Council Committee on Public Health, and Dr. Hambrook, as chairman of our Council Committee on Public Relations and Economics. That was agreed to instantly, and you are now represented by these three people, Mitchell, Hambrook, and myself, on that Committee. We are all deeply interested in it, and it has been a forward-looking effort, and it is continuing so ... There being no further discussion, the motion to recommit was put to a vote, and was adopted. ...

SPEAKER BAUER: That resolution is recommitted, and after further study by the reference committee, it will be resubmitted to the House.

DR. SIMPSON: Is it recommitted with that modification, as suggested by Dr. Schiff, incorporated in it?

SPEAKER BAUER: No, that is up to the committee to decide. No vote was taken on the substitute motion.

Section 39. (See 15)

Report of Reference Committee on New Business A—Medical Expense Indemnity Insurance

DR. SIMPSON: On the resolution introduced by Dr. Abraham Koplowitz, of Kings County, reading:

"WHEREAS, the Insurance Law, in Article IX-C, provides for voluntary nonprofit cash indemnity insurance, and (through representations made on behalf of the Medical Society of the State of New York) the law now provides that no corporation shall be licensed to furnish both hospital and medical insurance; and

"WHEREAS, the Hampton-Wright bill introduced in the present session of the legislature would permit hospital service insurance plans to include indemnity for physicians' and surgeons' fees in their contracts; and

"WHEREAS, any medical indemnity furnished through a hospital insurance contract would make the service of doctors incidental to the institutional services, with control of all details of such indemnity and service in the hands of lay dominated boards of management; and

"WHEREAS, the Hampton-Wright bill has been put off to the next session of the legislature with due notice that it will be pressed for favorable consideration if by that time medical insurance under administrative control of the medical profession has not developed a reasonably satisfactory participation on the part of both the profession and the public; and

"WHEREAS, the relatively small enrollment of subscribers and the incomplete participation of the medical profession during the past year have been due in part to the lack of outright full support of such enterprises by the organized medical societies; and

"WHEREAS, the Hampton-Wright bill, if enacted, will give the hospitals a legal entry into the practice of medicine, which in turn will constitute a long step toward lay control of medical practice and ultimately to a system of government medical service in the hands of a bureaucracy; and

"WHEREAS, the Council of the Medical Society of the State of New York has '... recognized with satisfaction the creation of three organizations for nonprofit medical expense indemnity insurance. In the opinion of the Council, the three have followed the tentative basis and suggestions for medical expense indemnity insurance that were set up by the House of Delegates on April 24, 1939'; therefore be it

"Resolved, that the Medical Society of the State of New York now officially approve, sponsor, and support in every manner possible the three corporations which have conformed to the principles prescribed by Organized Medicine for the protection of the interests of both the public and the profession in the organ-

ization and operation of medical insurance, namely, the Western New York Medical Plan, Inc., of Buffalo; the Medical and Surgical Care, Inc., of Utica; and the Medical Expense Fund of New York, Inc., of Brooklyn; and be it further

"Resolved, that notice of this action of the House of Delegates be given to the county Medical Societies (within the territory of the organizations thus endorsed), and that each one be urged to cooperate in every practical manner toward the accomplishment of a successful operation of voluntary nonprofit cash indemnity insurance by these organizations, within their respective fields of influence and interest, in order that a system of medical insurance under administrative control of the medical profession shall be developed and maintained."

your committee recommends the adoption of this resolution, with the amendment that the final paragraph should read as follows:

"Resolved, that notice of this action of the House of Delegates be given to all County Medical Societies of the State of New York, and that each one be urged to cooperate in every practical manner toward the accomplishment of the successful operation of voluntary nonprofit cash indemnity insurance by these organizations, in order that a system of medical insurance under administrative control of the medical profession shall be developed and maintained."

Your reference committee further recommends that a copy of this resolution be sent to the Commissioner of Insurance of the State of New York.

I so move.

DR. DEFORD W. BUCKMASTER, *Chautauqua*: I second that motion.

SPEAKER BAUER: You have before you the report of the reference committee on New Business A, which recommends the adoption of the resolution as submitted, plus an amendment. Is there any discussion on the report of the reference committee?

DR. HARRY ARANOW, *Bronx*: It seems to me that this urging of recognition by the State Society of three certain organizations is contrary to the declared policy of the State Society. One of these special groups to my knowledge has gone around to the different county societies and spoken about its plan, yet some of the counties have disapproved of it, or at least they have failed to approve it.

The main requirement of the State Society is that such an organization must comply with a number of rules that have been approved by the State Society. Therefore, I do not feel now that the State Society ought to go on record as sponsoring any one organization. Let every organization stand on its own legs. Our sponsoring any organization will put us in the position where we will be behind it without actually controlling it, and we will be left holding the bag if it should decide later to change any of its principles.

I feel personally that this should be left entirely to the individual county societies involved, without the State Society's endorsement of any one plan.

For the benefit of the men upstate, I may say

that I have particular reference to the Kings County Plan. While I am not opposed to Kings County, I am opposed to any group making the State Society stand behind their plan for no reason at all, as far as I can see. (Applause)

DR. JAMES F. ROONEY, *Past-President*: I think this resolution is a dangerous one. However, all of us realize, because we are realists, that we are approaching a period of collectivism, which is going to become more and more marked as time goes on; but I feel just as my old friend, Aranow, has just told you, that it is a dangerous principle for us to approve of any particular groups or any particular companies. To approve of the matter of medical indemnity insurance in principle, yes, but here we have essentially only three corporations, excellent in intent, relatively efficient in their localities in purpose, although on the other hand they have not received as yet the approval of the whole Society, especially in relation to its county components. Unfortunately, we are slow, as we always have been slow, and we are going to have to accelerate our speed because Congress has passed, within the last two weeks, one of the entering wedges that we have been dealing with for the last thirty-odd years that will provide hospitalization and medical care for all persons employed in industry in the United States. The bill, so far as I know, has not yet been signed, but I learn it will probably be signed.

I hope that the House will not approve by name these three corporations, but that it will approve of the principle of medical indemnity insurance and do something to further the extension of this service to all the people of the state.

To that end, Mr. Speaker, I move a substitute motion that will delete the names of any of the corporations mentioned in the resolution as approved by the reference committee, and the inclusion of a provision to the effect that the Society approves the principle of medical indemnity insurance and, if it be the wish of the House, that a committee be appointed or that the matter be referred to a proper committee for the intensification of the plan for the institution and extension of this service throughout the state. My substitute motion, then, will be that we approve the report of the committee, substituting for the names of the three corporations concerned the principle of medical indemnity insurance.

SPEAKER BAUER: You have heard the substitute motion made by Dr. Rooney, that instead of the inclusion of the three organizations concerned there be substituted approval of the principle of medical indemnity insurance, otherwise the committee's report to stand approved as read. Is that substitute motion seconded?

DR. GEORGE W. KOSMAK, *New York*: Yes, I will second it.

DR. HERBERT H. BAUCKUS, *Erie*. I speak as the chairman of the Subcommittee on Medical Indemnity Insurance Plans now in vogue in the State of New York.

The Medical Society of the State of New York, in 1939, and the American Medical Association approved the principles under which these mentioned companies are now operating. Each year since, we have gone so far as to approve the principles, and that is as far as we have gone. I will say that these companies are operating under

the principles which we enunciated and which were brought out each year here by the House of Delegates, and I would take it that if they were not operating in that manner, then we would be bound to disapprove of them; therefore, we are really approving them. They follow our desires.

The statement has been made, and is being made more and more, that even though in various localities efforts have been made to provide medical indemnity insurance, the medical profession individually, and especially as a group, have done very little to support those plans. That, after all, is the truth, and, as our report bears out this year, these companies, who have volunteered and gone into this work that we really set up for them, have not had our support as much as they should have had it, and as much as they needed it. We might as well say right here and now, "Let us forget about any company doing anything in New York State unless the Medical Society gives it a more definite approval than it has in the past."

The law plainly states that the largest number of counties that may take part in a single plan is eighteen. Some of them have two or three counties. One has six. The Brooklyn Plan has seventeen. Therefore, under the law it is impossible to approve of a state-wide plan. We might have some master plan developed and brought out that we would urge counties to follow, but we cannot have an entire state plan.

I think it would be very unfortunate at this stage of affairs, especially with the hospital insurance under social security now looming up, to have the Medical Society of the State of New York take any action which would seem to push back the efforts of these people who have worked so well for us. We owe a great deal to each of these three groups, and I would like to see us do something for them. I think this is the time to do it. (Applause)

DR. ABRAHAM KOPLOWITZ, *Kings*. Mr. Speaker and Gentlemen, some twenty-one or twenty-two years ago I was in Albany with Dr. Rooney fighting against compulsory health insurance. It is time that we stopped fiddling while Rome is burning. We are threatened with compulsory insurance of various types, state and national. Dr. Rooney just informed you that the national government is planning something that will be nation-wide. Here in New York State, particularly, the medical profession has taken a stand against compulsory health insurance, and has said, "Let us try." It was not said officially by the State Society, but sufficiently so to have it understood by the public that the medical profession is going to try something.

The result was that a few organizations, three that I know of, were started by medical men, and another group by lay people using as window dressing medical names. The companies that are mentioned in this particular resolution, so far as we know, are the only ones that have submitted plans, shown their scope, their organization, and met every requirement that this House of Delegates has placed upon such plans. The idea of our talking about medical expense indemnity and the moment something concrete is mentioned saying, "Don't touch it," and being afraid, is absurd. You might as well once and for all make up your mind to stop fooling yourselves. Either

let the government and the public do as they please about this or do something yourselves. You cannot stop every little progress that is made.

We are naming these particular companies because they represent certain counties. There may be others formed to take care of the rest of the counties. If they are conforming, and will conform, to all the tenets that the State Medical Society and the American Medical Association have specified for such organizations, we will approve them. The least you can do is to encourage those that are making an effort. If you don't want to do that, stop talking about medical expense indemnity and stop fighting compulsory health insurance. Take whatever is coming to you. I cannot see the idea of delaying it and being afraid of a name. These companies were organized by members of your own body, members of the State Medical Society. They certainly are not looking for profit. They are trying to forestall something. The least we can do is to help them. (Applause)

SECRETARY IRVING: I merely wish to give a little information that I think will be to your interest. Last October I was invited to go to Buffalo to speak before a meeting of the social welfare people. Following me was Michael Davis. I spoke about these three companies, and the fact that they were going along slowly but proceeding. I rather stressed the value of slow development, comparing it with the soundness of the practice of a doctor that develops slowly when he first goes into practice, yet is the soundest type of practice to have. I went along that way, and Michael Davis came along behind. Michael Davis, whom you all know, said he was greatly interested to know about these companies and their slow development, but that there were others who believed in a more nation-wide type of insurance. He did not specify who they were, but that was the inference, that it was to be federal, and those others were watching with great interest the development, and that if these companies did not succeed then another thing could be done. That was the gist of what he had to say, and I think that the time has come when anything we can do, and properly do, to foster the development, the more rapid development, of these three perfectly good companies, it will be well to do. (Applause)

DR. HOMER J. KNICKERBOCKER, *Ontario*: Mr. Speaker and Delegates, these three companies are the children of the brain of this organization. Are we going to disown them at this time by deleting their names from this resolution? It does not seem reasonable to me, nor do I think it is fair to do that. It seems to me that everyone who knows anything about the progress of these companies knows their names. You are not concealing anything; you are just pussyfooting around; you are just backing down. I see no reason why their names should not be retained in this report.

We, in the Finger Lakes Region in the western part of the state, have been deprived of the privileges of medical indemnity insurance because of the fact that no organization of that character has developed in the territory. We would be anxious and willing to join either Utica or Buffalo. (Applause)

DR. THOMAS A. MCGOLDRICK, *Kings*: To cor-

rect very briefly just one statement which might have connotations not intended: It has been stated that this is a sponsoring of one plan, which means that no other plan would be approved, or sponsored, or encouraged by the State Society.

There is nothing in this resolution which prohibits the development of the Three-Cent-A-Day Hospital Plan. There is nothing in the resolution to prevent any doctor in this body from presenting today or tomorrow another plan and having it submitted to a committee and having it receive the approval which it would deserve. There is nothing to give any company a monopoly, as it was implied, of the entire care of the sick from the financial standpoint. It is one measure that has met all the requirements laid down for it by the State Society, has been in practice for a short while, and that has not received the encouragement that it deserves. We have stood for the principles under which these organizations were started, and now when the practical application arises and endorsement is requested from this body which has laid out the principles, then, through fear, or conservatism, or some other feeling of our minds, we backwater and do nothing.

That has been the criticism of the State Departments, it has been the criticism of the Social Security Department, and all those others that watch us, and who would tear things to pieces, while we stand by and do nothing about it. We have been told from Washington, we have been told from Albany, and we have been told in the immediate past by the Superintendent of Insurance, "If you are not able to do anything on this question, then we will put through another plan within a year."

In this time of confusion, when it would be so easy to stampede people into an acceptance of laws, especially on social security, it would be a very dangerous matter for the medical profession to continue a policy of doing nothing.

I hope that the report of the reference committee will be approved.

DR. J. RICHARD KEVIN, *Past-President*: I should like to discuss another phase of the question. It has been mentioned here the fear of putting down the names of the men who have had the temerity and the courage to start something that we all conceive to be sound in principle. All we want to do now is to show that that principle can be and will be carried out. The part of it I desire to mention is that another state body has endorsed this organization. It is the State Board of Social Welfare, of which I have been a member for twenty-nine years—no salary though, gentlemen, no salary. (Laughter) When it came before us for certification, we studied the question and said, "Here is a chance. Here is an opportunity." For heaven's sake, don't let this body go home and say they were afraid of it.

DR. CARLTON E. WERTZ, *Erie*: Mr. Speaker and Members of the House of Delegates, I happen to be one of the representatives of the Western New York Medical Plan. We have been in operation for a little over two years. We are going slowly, as all these things do; but I think we are going—and not only we but all through the state—too slowly to keep up with things that are coming in from the outside.

One of the greatest difficulties we have is to get

the wholehearted support of the doctors. It is not only the public you have to sell, but you have got to sell the doctors these things first; and that is the biggest problem we have. It does not do any good for any of these organizations to try to go on if they do not have the support of the entire profession. We find that true, and it is true here in this end of the state as well as in our end of the state. This thing is getting to be serious right now.

You are all familiar with the Hampton Bill, which was introduced into our Legislature this year, and laid on the table to hold over for next year, and which provides that the hospital insurance will be able to give medical and surgical services, if we don't take care of this ourselves. I have here a copy of a letter from Louis H. Pink, Superintendent of Insurance of the State of New York, which he wrote to Dr. Benjamin M. Bernstein, secretary of the Medical Society of the County of Kings, under date of March 16, 1942, reading:

"Dear Dr. Bernstein:

"I do not think the proposed amendment permitting hospital associations to give surgical benefits will get anywhere this year. However, I do think it will become a law eventually unless the medical indemnity corporations really amount to something. So far they have not made good.

"We shall take no active steps to get the bill through this year but expect to do it next year unless there is a change in the situation.

"With best wishes,

"Sincerely yours,

(Signed) LOUIS H. PINK,
Superintendent of Insurance."

That is a serious thing, and I think it is about time we should do something definite and take some active stand in this matter.

DR. CHAS. GORDON HEYD, *Past-President*: I want you to go back in your memory with me to a meeting of the House of Delegates of the American Medical Association when the late Senator J. Hamilton Lewis, of Illinois, at his own invitation addressed the A.M.A.

In substance, he said that the day of private practice was finished, and hereafter the medical profession of the United States was in a civilian army, to be paid by it, and any individual could demand and receive any hospital services in their neighborhood or any professional services that he desired, and the doctor would have no voice in the matter as he would be in the army of the United States, taking care of the health and illnesses of the people of this country.

Considerable water has gone over the dam since then, during which this body, of which you are the representatives, set forth limitations and certain guiding principles for companies to follow that were seeking to write cash indemnity insurance. Up to date, three companies have complied with every regulation that you have made, and they are now coming here and saying in effect, "Have we acquitted ourselves of your injunctions?" All you want to do is to pat them on the back, and send them out again without recognition.

Let me tell you there have been plenty of heartaches on the part of some of the men who devised these plans. In this room are men who

devised one of these companies beginning four or five years ago, and who went down into their own personal fortunes to put up the money to run this thing. None of these three mentioned companies can succeed if any member of the Medical Society of the State of New York says, "My State Society has not recognized you."

If you do not adopt the report of the reference committee, you will pass over the control of medical practice to lay groups who, working through the front door of the hospital, will dominate medical practice and hospital practice. Abuses will arise in that system, as in England with the Friendly Societies and the Labor Medical Societies, and the government overnight will take the skeletonized, impoverished form of these organizations and you will have Federal Medicine.

The time has passed, gentlemen, when we can sit here and say, "We approve in principle." Aren't there enough of you here to go forward and fight for your own preservation? If there are, you will adopt the resolution and the report of the reference committee. (Applause)

DR. JAMES F. ROONEY, *Past-President*: I just want to withdraw my motion, Mr. Speaker. (Applause) I had not intended doing what I did. The intent was to sort of wake this House up. It seemed to me when I came in that it was indulging in insomnia in reverse, and I had the feeling in a matter so important as this that this resolution was entitled to more discussion than it was about to receive. I felt perfectly certain that touching upon anything in relation to compulsory health insurance, with which of course, in the last thirty years I am totally and completely unfamiliar and have done nothing about, we might at least galvanize this House into some sort of activity. I am amazed, surprised, and delighted to see the flame spark from every eye and the words of passion and emotion from every mouth. I withdraw my motion. (Applause)

DR. GEORGE W. KOSMAK: I withdraw my second.

DR. HARRY ARANOW: The reason I made the suggestion was that I hated to see the State Society sponsor this thing. You can encourage it, but you should not sponsor it. Why do I say that? Because I have been told by men who know insurance from the beginning to the end that this thing is impractical and is not going to succeed. That is my personal opinion, and I would hate to see the State Society go behind it and then have the thing fail. So long as we encourage it, and are not as an organization sponsoring it, it will not place us in an embarrassing position. I do not think it is going to succeed; in fact, I have been told by men high up in insurance that this thing is bound to fail, and I am sure there are men on the platform today who have said the same thing.

DR. JAMES F. ROONEY: There was one statement, however, that was made in the discussion which is incorrect. It was to the effect that the Hampton-Wright Bill would lie over until the next legislative session, and then be acted on. That is a misunderstanding or a misstatement. No bill can lie over from one legislative session to the next in the State of New York. When the Legislature adjourns sine die, everything is dead, and nothing can lie over until the next session.

SPEAKER BAUER: I take it there is no objection to the withdrawing of Dr. Rooney's motion. Hearing none, we can proceed to discuss the motion of the reference committee chairman which calls for the approval of the resolution as submitted, plus the amendment added by the reference committee. Is there any discussion on that motion?

. . . . The question was called for, and the motion was put to a vote, and was carried. . . . (Applause)

Section 40. (See 25)

Report of Reference Committee on New Business C—Connecticut State Medical Society, 150th Anniversary

DR. HARRY C. GUESS, Erie: On the resolution presented by Dr. Benjamin M. Bernstein, of the Medical Society of the County of Kings, reading:

"WHEREAS, the Medical Society of the State of Connecticut is celebrating the 150th anniversary of its founding at Middletown, Connecticut, on June 3 and 4, 1942; and

"WHEREAS, friendly relations between neighboring states particularly should always be maintained; be it

"Resolved, therefore, that two delegates of the Medical Society of the State of New York be sent as representatives to the Convention of the Medical Society of the State of Connecticut on the above-mentioned dates in order to join with them in the celebration of their 150th Anniversary,"

the committee recommends approval. I so move.

. . . . The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried. . . .

Section 41. (See 17, 42)

Report of Reference Committee on New Business C—Opposition to Attempts to Lower Standing of Medical Practice or Conduct

DR. GUESS: This is on the resolution presented by Dr. Bedell, past-president of this organization, reading:

"WHEREAS, it has come to our attention that resolutions may be introduced in the House of Delegates of the American Medical Association which we believe will lower the ethical standing of the members of the profession; and

"WHEREAS, we are convinced that any attempt to so alter the professional standing of our members would be detrimental to the public health; be it therefore

"Resolved, that the House of Delegates of the Medical Society of the State of New York, in annual session assembled, hereby registers its protest of any such contemplated changes; and further be it

"Resolved, that the delegates from the Medical Society of the State of New York to the American Medical Association be instructed to oppose any and every attempt to lower the standing of medical practice or conduct."

The committee recommends approval of this resolution, and I so move.

. . . . The motion was seconded. . . .

SPEAKER BAUER: You have before you the report of the reference committee, which recommends adoption of this resolution, which is in effect a protest against the lowering of the standards of ethics of the American Medical Association.

DR. ABRAHAM KOPLOWITZ, Kings: Just what does this refer to?

SPEAKER BAUER: Can you answer it, Dr. Guess?

DR. GUESS: We have another resolution dealing with the same subject from Dr. Irl H. Blaisdell, secretary of the Syracuse Eye, Ear, Nose, and Throat Club, which explains this pretty fully, and which we will act upon later.

Dr. Bedell went before this committee and explained the situation. Apparently, if you will notice this resolution, it is really a blanket coverage for anything that is ethical and against anything that is nonethical. It makes no specific mention of any one particular offense which might be brought before the American Medical Association or against our profession; so being of that type we felt that we should pass this resolution first because of its blanket coverage.

SPEAKER BAUER: Does that answer your question?

DR. KOPLOWITZ: Frankly, no. I don't see how we can possibly question that the American Medical Association knows its ethics, too.

PRESIDENT KOFETZKY: Gentlemen, I have been a delegate from the Medical Society of the State of New York to the American Medical Association for a number of years. In our enthusiasm, or, as Dr. Rooney says, in our somnambulism, we occasionally approve reports from reference committees either instructing our delegates to the A.M.A. or hamstringing their freedom of action in the exercise of their intellectual integrity on any motion or proposition before the House of Delegates of the A.M.A.

Today you have already passed one resolution that is going to be very embarrassing to the delegates of this Society to the A.M.A. You are about to pass a resolution in which it says in general anything that is not good you shall vote against without bringing out upon the floor here the specific thing to which it is aimed and upon which you are endeavoring to instruct your delegates, of whom I am one. If this resolution passes, I shall still have to read the Bible to find out what is really meant as to who and what is the nefarious thing that I should protest against. Let us hope, at least, that the delegates of the A.M.A. from the rest of the states have as high a zeal for ethical conduct as we have ourselves. On the other hand, if there is pending, and if anybody knows of, a specific proposition upon which you want to instruct us, your delegates, say so. (Applause)

SPEAKER BAUER: Is there any other discussion? If not, you have before you the report of the reference committee which recommends adoption of the resolution.

DR. HARRY ARANOW, Bronx: I believe the other resolution which the chairman of the reference committee says deals with the same subject matter in more detail may throw some light upon the discussion of this resolution. May we take up that other resolution now and hold this in abeyance for the time being.

SPEAKER BAUER: Do you so move?

DR. ARANOW: Yes, I will move that

DR. JOHN L. BAUER, *Kings*: I will second that.

SPEAKER BAUER: It has been moved that the other resolution pertaining to this subject-matter be taken up before final action is taken on the resolution just read. Is there any discussion?

... There were calls for the question, and the motion was put to a vote, and was unanimously carried. . . .

SPEAKER BAUER: We will take up the other resolution first, and then come back to this one

Section 42. (See 18)

Report of Reference Committee on New Business C—Opposition to Change in A.M.A. Rule of Ethics Against Consultation with Nonmedical Persons

DR. GUESS: This is the resolution referred to that was presented by Dr Irl H Blaisdell, secretary of the Syracuse Eye, Ear, Nose, and Throat Club:

"WHEREAS, there is a Rule of Ethics governing the relationship of members of the American Medical Association in the matter of giving lectures or courses of instruction or to consult with anyone not associated with actual medical service, adopted by the House of Delegates of the American Medical Association in 1935; and

"WHEREAS, this Rule of Ethics in the opinion of this organization is still satisfactory and adequate, and

"WHEREAS, the motion passed at the 1941 meeting of the Section on Ophthalmology of the American Medical Association in Cleveland asking the House of Delegates to rescind this motion was not adequately discussed, and

"WHEREAS, the one hundred and fifty members present did not fully represent the opinions of this organization; be it

"Resolved, that it is the opinion of this organization, the Syracuse Eye, Ear, Nose, and Throat Club, that the Rule of Ethics established in 1935 by vote of the House of Delegates not be rescinded; and be it

"Resolved, that the Secretary be instructed to convey a copy of these resolutions to the delegates of the New York State Medical Society to the House of Delegates of the American Medical Association and such others as may be advisable; namely, the President of the American Academy of Ophthalmology, Dr. Ralph I. Lloyd, of Brooklyn, New York, and the Secretary of the Ophthalmological Section of the American Medical Association, Dr. Derrick Vail, of Cincinnati, Ohio."

The committee believes the purpose of this resolution has been adequately covered by the resolution of Dr. Bedell and, therefore, believes that it is unnecessary to bring it before the House at this time, although the purpose has been approved by the committee.

Mr. Speaker, I think that Dr. Bedell, who is the prime mover of this, could enlighten us a lot on the conditions which are existing and which might be contrary to the welfare of the medical profession.

SPEAKER BAUER: Dr. Bedell, the chairman would be very glad to have you come up here and explain this in more detail.

DR ARTHUR J. BEDELL, *Past-President* Mr Speaker and Members of the House, I regret that Dr Kopetzky's knowledge is so limited that he will have to refer to the Bible for his spiritual education

I refer particularly to the final portion of my resolution, "that the delegates from the Medical Society of the State of New York to the American Medical Association be instructed to oppose any and every attempt to lower the standing of medical practice or conduct"

That is certainly clear to anyone who wishes to have it clear—"to oppose any and every attempt to lower the standing of medical practice or conduct" This organization has gone on record as approving certain rules of conduct. Among those rules are that we do not consult with those who are not engaged in the practice of medicine There is not a man on the floor who does not know that it is unethical to consult with an osteopath *

I am sorry to have to go into this in detail, but let us go back, so if you are asked to vote on a specific question—incidentally, this resolution was not for a specific purpose, but the question has been raised that it is—you will know the background In 1934 or 1935 there was a great deal of agitation regarding the consultations and the fee-splitting between ophthalmologists and opticians Every one of you knows how that has been spread through the literature in the country You know the article in *Fortune* You know all that that has led to A certain individual, a professor of ophthalmology in a western university, and the attending ophthalmologist in a hospital, came before the Section on Ophthalmology, and asked that the Section go on record as disapproving instruction by doctors of laymen—and opticians and optometrists are laymen in our sense It came about then that this resolution was passed by the Section, and passed by an overwhelming vote It was then carried to the House of Delegates of the American Medical Association, and they approved it unanimously.

Subsequent to that, some very few felt that that curtailed their activities in one way or another, so they started a campaign for the rescinding of this resolution. As a result, a referendum vote was sent to every registered ophthalmologist in the Section on Ophthalmology of the American Medical Association, and much to the surprise of those that sponsored that referendum the vote was overwhelmingly in favor of the retention of it. Please take that in note that instead of any small group, it was sent to all registered members of the Section on Ophthalmology, and an overwhelming vote came back, "Do not rescind it"

That was not sufficient for those who wished for some motives to change it, so they brought it up before the Section on Ophthalmology, and again they were defeated. Finally, at the last meeting, late in the afternoon, someone arose and said, "I move we go into executive session" At that time the House was almost empty—well, certainly, there was less than one-tenth of the number of men that had been there. The resolution for rescinding was then placed before this

* Should be "chiropractor," according to later correction

small crowd, and, by about eight votes, was then passed. That is the history of the movement.

In my pocket upstairs—unfortunately not on my person—is a letter from the secretary of the Section on Ophthalmology. (For those who do not know it, I happen to be the delegate to the American Medical Association representing the Section on Ophthalmology of the A.M.A.) As I said, I have a letter from the section chairman saying, "Do not introduce that rescinding resolution until you hear more from us. Further, there will be a meeting of the Section before action will be taken."

Let us understand what that means. There has been a nation-wide rising up in wrath and indignation against this rescinding resolution, and that has come from all over the country. It has come from the West Coast, the Middle States, and so on. If you pass the resolution which your committee approved of, it simply says you are going to oppose any and every attempt to lower the standards of medical practice or conduct. I sincerely trust you will not think there is any hidden motive, for there is not. (Applause)

SPEAKER BAUER: I think for clarification that perhaps some misunderstanding exists in this House as to the intent of this resolution. As the chair understands it—and if I am wrong, Dr. Guess, please correct me—this is not a resolution directing our delegates to take a resolution to the American Medical Association and introduce it, but merely that if such a resolution as has been described is introduced by anyone else, they are instructed to oppose it. Am I correct in that?

DR. GUESS: Right.

SPEAKER BAUER: Is there any further discussion?

DR. JOHN J. MASTERSON, Kings: Dr. Bedell made a statement that it was not ethical to consult with an osteopath. Does he mean an osteopath or a chiropractor? An osteopath is licensed to practice in this state.

DR. BEDELL: Thank you! I mean a chiropractor.

DR. MASTERSON: I brought that before you because we have the press here.

PRESIDENT KOPETZKY: I did not understand it, as it has now been presented.

CHORUS: Nor did we.

DR. GUESS: Inasmuch as Dr. Kopetzky and several others have said they did not understand it, I should like to read Dr. Bedell's resolution again.

SPEAKER BAUER: Please do so.

DR. GUESS: It reads:

"WHEREAS, it has come to our attention that resolutions may be introduced in the House of Delegates of the American Medical Association which we believe will lower the ethical standing of the members of the profession; and

"WHEREAS, we are convinced that any attempt to so alter the professional standing of our members would be detrimental to the public health; be it therefore

"Resolved, that the House of Delegates of the Medical Society of the State of New York, in annual session assembled, hereby registers its protest of any such contemplated changes; and further be it

"Resolved, that the delegates from the Medi-

cal Society of the State of New York to the American Medical Association be instructed to oppose any and every attempt to lower the standing of medical practice or conduct."

The committee recommends approval of this resolution, and I so move.

SPEAKER BAUER: It has already been moved. It was also moved that action on this be delayed until the other resolution was presented. No motion was made with reference to the other resolution of Dr. Blaisdell's, so the motion before the House now is still the original motion to adopt the report of the reference committee, which carries with it approval of the resolution introduced by Dr. Bedell.

DR. ABRAHAM KOPLOWITZ, Kings: I am in entire sympathy with Dr. Bedell in his ideas, but I do not think that this resolution is in any way going to further them. This is instructing the delegates to do a very obvious thing, a thing which if they did not think of they have no right to be delegates. I would suggest or, rather, move you that this be resubmitted to the reference committee with very definite instructions as to the wording of the resolution to make it apply to the particular rescinding that Dr. Bedell speaks of. After there is a rewording of that, we could then take a definite stand.

.... The motion was seconded by several.

SPEAKER BAUER: It has been moved and seconded that the resolution introduced by Dr. Bedell be recommitted to the reference committee. Is there any discussion on the recommitment?

DR. JAMES F. ROONEY, Past-President: I can see no reason for recommitting the resolution. It merely calls attention to the need for our delegates to the A.M.A. to stand for the preservation of our present Code of Ethics. It may seem to some superfluous, but it does not seem so to me. I feel that the resolution is perfectly proper, and in view of Dr. Bedell's lucid explanation not alone is it proper, but it is needed at this time. I hope the motion to resubmit will not pass and that the House will vote to sustain the Code of Ethics of the A.M.A., and will so direct our delegates to that body.

.... The question being called, the motion to recommit was put to a vote, and was lost.

SPEAKER BAUER: The motion before you now is the adoption of the reference committee's report, which carries with it adoption of Dr. Bedell's resolution. Is there any further discussion?

.... The question being called, the motion was put to a vote, and was carried.

DR. GUESS: We will now go back to the other resolution by Dr. Blaisdell on the same subject. Shall I re-read it?

CHORUS: No!

SPEAKER BAUER: Does anyone wish that second resolution re-read?

CHORUS: No!

SPEAKER BAUER: It is the wish of the House not to have it re-read.

DR. GUESS: The reference committee believes the purpose of this resolution has been adequately covered by the resolution of Dr. Bedell and, therefore, believes that it is unnecessary to bring it before the House at this time, although the purpose has been approved by the committee.

DR. ARANOW: Yes, I will move that.

DR. JOHN L. BAUER, *Kings*: I will second that.

SPEAKER BAUER: It has been moved that the other resolution pertaining to this subject-matter be taken up before final action is taken on the resolution just read. Is there any discussion?

.... There were calls for the question, and the motion was put to a vote, and was unanimously carried.

SPEAKER BAUER: We will take up the other resolution first, and then come back to this one.

Section 42. (See 18)

Report of Reference Committee on New Business C—Opposition to Change in A.M.A. Rule of Ethics Against Consultation with Nonmedical Persons

DR. GUESS: This is the resolution referred to that was presented by Dr. Irl H. Blaisdell, secretary of the Syracuse Eye, Ear, Nose, and Throat Club:

"WHEREAS, there is a Rule of Ethics governing the relationship of members of the American Medical Association in the matter of giving lectures or courses of instruction or to consult with anyone not associated with actual medical service, adopted by the House of Delegates of the American Medical Association in 1935; and

"WHEREAS, this Rule of Ethics in the opinion of this organization is still satisfactory and adequate; and

"WHEREAS, the motion passed at the 1941 meeting of the Section on Ophthalmology of the American Medical Association in Cleveland asking the House of Delegates to rescind this motion was not adequately discussed; and

"WHEREAS, the one hundred and fifty members present did not fully represent the opinions of this organization; be it

"Resolved, that it is the opinion of this organization, the Syracuse Eye, Ear, Nose, and Throat Club, that the Rule of Ethics established in 1935 by vote of the House of Delegates not be rescinded; and be it

"Resolved, that the Secretary be instructed to convey a copy of these resolutions to the delegates of the New York State Medical Society to the House of Delegates of the American Medical Association and such others as may be advisable; namely, the President of the American Academy of Ophthalmology, Dr. Ralph I. Lloyd, of Brooklyn, New York, and the Secretary of the Ophthalmological Section of the American Medical Association, Dr. Derrick Vail, of Cincinnati, Ohio."

The committee believes the purpose of this resolution has been adequately covered by the resolution of Dr. Bedell and, therefore, believes that it is unnecessary to bring it before the House at this time, although the purpose has been approved by the committee.

Mr. Speaker, I think that Dr. Bedell, who is the prime mover of this, could enlighten us a lot on the conditions which are existing and which might be contrary to the welfare of the medical profession.

SPEAKER BAUER: Dr. Bedell, the chairman would be very glad to have you come up here and explain this in more detail.

DR. ARTHUR J. BEDELL, *Past-President*: Mr. Speaker and Members of the House, I regret that Dr. Kopetzky's knowledge is so limited that he will have to refer to the Bible for his spiritual education.

I refer particularly to the final portion of my resolution, "that the delegates from the Medical Society of the State of New York to the American Medical Association be instructed to oppose any and every attempt to lower the standing of medical practice or conduct."

That is certainly clear to anyone who wishes to have it clear—"to oppose any and every attempt to lower the standing of medical practice or conduct." This organization has gone on record as approving certain rules of conduct. Among those rules are that we do not consult with those who are not engaged in the practice of medicine. There is not a man on the floor who does not know that it is unethical to consult with an osteopath.*

I am sorry to have to go into this in detail, but let us go back, so if you are asked to vote on a specific question—incidentally, this resolution was not for a specific purpose, but the question has been raised that it is—you will know the background. In 1934 or 1935 there was a great deal of agitation regarding the consultations and the fee-splitting between ophthalmologists and opticians. Every one of you knows how that has been spread through the literature in the country. You know the article in *Fortune*. You know all that that has led to. A certain individual, a professor of ophthalmology in a western university, and the attending ophthalmologist in a hospital, came before the Section on Ophthalmology, and asked that the Section go on record as disapproving instruction by doctors of laymen—and opticians and optometrists are laymen in our sense. It came about then that this resolution was passed by the Section, and passed by an overwhelming vote. It was then carried to the House of Delegates of the American Medical Association, and they approved it unanimously.

Subsequent to that, some very few felt that that curtailed their activities in one way or another, so they started a campaign for the rescinding of this resolution. As a result, a referendum vote was sent to every registered ophthalmologist in the Section on Ophthalmology of the American Medical Association, and much to the surprise of those that sponsored that referendum the vote was overwhelmingly in favor of the retention of it. Please take that in note: that instead of any small group; it was sent to all registered members of the Section on Ophthalmology, and an overwhelming vote came back, "Do not rescind it."

That was not sufficient for those who wished for some motives to change it, so they brought it up before the Section on Ophthalmology, and again they were defeated. Finally, at the last meeting, late in the afternoon, someone arose and said, "I move we go into executive session." At that time the House was almost empty—well, certainly, there was less than one-tenth of the number of men that had been there. The resolution for rescinding was then placed before this

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small crowd, and, by about eight votes, was then passed. That is the history of the movement.

In my pocket upstairs—unfortunately not on my person—is a letter from the secretary of the Section on Ophthalmology. (For those who do not know it, I happen to be the delegate to the American Medical Association representing the Section on Ophthalmology of the A.M.A.) As I said, I have a letter from the section chairman saying, "Do not introduce that rescinding resolution until you hear more from us. Further, there will be a meeting of the Section before action will be taken."

Let us understand what that means. There has been a nation-wide rising up in wrath and indignation against this rescinding resolution, and that has come from all over the country. It has come from the West Coast, the Middle States, and so on. If you pass the resolution which your committee approved of, it simply says you are going to oppose any and every attempt to lower the standards of medical practice or conduct. I sincerely trust you will not think there is any hidden motive, for there is not. (Applause)

SPEAKER BAUER: I think for clarification that perhaps some misunderstanding exists in this House as to the intent of this resolution. As the chair understands it—and if I am wrong, Dr. Guess, please correct me—this is not a resolution directing our delegates to take a resolution to the American Medical Association and introduce it, but merely that if such a resolution as has been described is introduced by anyone else, they are instructed to oppose it. Am I correct in that?

DR. GUESS: Right.

SPEAKER BAUER: Is there any further discussion?

DR. JOHN J. MASTERSON, *Kings*: Dr. Bedell made a statement that it was not ethical to consult with an osteopath. Does he mean an osteopath or a chiropractor? An osteopath is licensed to practice in this state.

DR. BEDELL: Thank you! I mean a chiropractor.

DR. MASTERSON: I brought that before you because we have the press here.

PRESIDENT KOPETZKY: I did not understand it, as it has now been presented.

CHORUS: Nor did we.

DR. GUESS: Inasmuch as Dr. Kopetzky and several others have said they did not understand it, I should like to read Dr. Bedell's resolution again.

SPEAKER BAUER: Please do so.

DR. GUESS: It reads:

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"WHEREAS, we are convinced that any attempt to so alter the professional standing of our members would be detrimental to the public health; be it therefore

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their practices, and if government agencies refuse to commission in the Armed Services graduates of foreign schools, both natives and foreigners who are refugees here, the result will be that these graduates of foreign schools will have the practice, whatever there is of it, by the time our native sons return from military duty. On the other hand, it should be honestly stated that most of these men are knocking at the door of government agencies and offering their services to the government because they realize the peculiar position in which conflicting and multitudinous regulations place them, and they do not wish to assume the role of displacing the native-born American physician. Consequently, some time ago I wrote a memorial on their situation to the President of the United States and asked that some government agency formulate a policy which would, on the one hand, utilize their services, and on the other hand not put them into the classification of displacing American physicians who are out on government service in the military forces, to prevent inter-racial and inter-religious hatreds.

This memorial that I sent forward has been passing through various departments in Washington, and has not as yet been officially answered. Unofficially, I have heard from Dr. Irving Abell, the chairman of the National Committee that sits on the committees with the Surgeons General of the Army and Navy and the Public Health, that they are trying to work out a formula. The action of Surgeon General Parran's editorial, to which reference is made in the resolution, was a kite, to see the reaction, and in essence it meant that they recognize the danger of leaving these men to assume the practices of Americans who go into the Armed Forces and the natural reaction of our native-born doctors who, when they come back, will find this competition seated and entrenched and have a harder job re-establishing themselves. They recognize that as a potent factor and tried to find a way of utilizing these men's services away from New York, and they ask states which have not as liberal a policy in regard to licensure as New York State has to let down the bars, because if they did these men would not be crowding by the thousands in the State of New York but would spread all over the country. They merely ask that these states let down the bars temporarily while these men are in government service, not in the Army, because in the Armed Forces, for reasons of strategy and policy, these men cannot be commissioned and cannot be used; hence this effort.

This effort is indirectly a service to our own people. This effort indirectly is taking these men, these unfortunate men, whom when we return from service we will envy because they will have seated themselves into our practices, out of such a precarious position. In other words, they, too, will leave their home stations and take their chances to re-establish themselves when and if the emergency is over. Inherent in the thing is the fact that they have a temporary license to practice in a specific place. For instance, they may get a temporary license to practice in Sitka, Alaska, on a government project, while the emergency is on and for six months thereafter, and when that period is over they can come back at the same time as our American doctors come back from the Armed Forces.

Thus there is behind the program the essence of what we want, namely, its demobilization after the war. That is the situation. Procurement and Assignment insists that they enroll. Procurement and Assignment will then assign them for temporary work with the Public Health Service or for civilian work away from home. That is all there is to it.

DR. J. RICHARD KEVIN, *Past-President*: I move we lay this on the table.

DR. KOPLOWITZ: I second the motion.

.... The motion to table was put to a vote, and was lost....

DR. JAMES F. ROONEY, *Past-President*: In connection with the memorial which Dr. Kopetzky has just spoken about, the Congress in the last two weeks has taken some action on this question relating to the admission of aliens into the Army. There has never been any provision in the statute law of the United States which prevents any alien from being commissioned in the Army. He could not be paid, but he could be commissioned. Two weeks ago both houses, the Senate and the House of Representatives, passed a bill providing that aliens otherwise acceptable to the government for commission in the Armed Services could be commissioned and paid. Whether that bill has been signed by the President or not, I am not yet informed. My information is from the official Army and Navy Journal, so I take it something is already being done in relation to admitting these men to the Army and eventually in all probability some will be admitted. Of course not all will be, but many of them who are crying that they want to be commissioned may be, and the other services may take this up. I felt the House should know that has already been done. The Navy in all probability will not accept them. The Navy never has, but the other services I believe very shortly will. They are going to be needed, and they will probably be utilized where they can best be fitted in.

PRESIDENT KOPETZKY: I want to make a correction of Dr. Rooney's statement. I am referring to men who have taken out their first papers and have been here for some time; not to a nondeclarant personage who lives in this country and was admitted under the quota, which is in a strict sense what an alien is.

DR. ROONEY: It does not make any difference now.

PRESIDENT KOPETZKY: The ones I have reference to are not in the strict sense of the word aliens under the law.

.... The question was called for, and the motion was put to a vote, and was adopted....

Section 44. (See 22)

Report of Reference Committee on New Business C—Licensure, Full Citizenship Requirement

DR. GUESS: This is a resolution presented by Dr. John L. Edwards, of Columbia County, Dr. Denver N. Vickers, of Washington County, and Dr. Joseph H. Cornell, of Schenectady County:

"WHEREAS, the large influx of foreign-educated physicians permitted to practice medicine in this state without known scholastic and medical training has tended to lower the standards of medical ethics and practice;

"Resolved, that applicants for the practice of medicine in this state from foreign schools

SPEAKER BAUER: What is your recommendation, that no action be taken on it?

DR. GUESS: No, it can be brought before the House, but we make no comment on it.

DR. ROONEY: I move that that lay on the table.

....The motion was seconded, put to a vote, and was carried.....

Section 43. (See 24)

Report of Reference Committee on New Business C—Foreign Physicians Under Procurement and Assignment

DR. GUESS: This resolution was introduced by Dr. John D. Carroll, of the Medical Society of the County of Rensselaer:

"Resolved that the Delegates representing the Medical Society of the County of Rensselaer of the State of New York put forward this resolution:

"Pursuant to Surgeon General Parran's editorial of recent date in the *Journal of the American Medical Association*, concerning the shortage of medical practitioners throughout the country and advocating the lessening of licensure restrictions in the case of foreign physicians, we of the Medical Society of the County of Rensselaer respectfully submit:

"Resolved that (1) Since the majority of said foreign doctors are engaged in the practice of medicine in the State of New York, the Office of Procurement and Assignment shall in the future select from among these same foreign doctors now practicing in this state physicians for practice in other states that meet with New York State's reciprocity laws;

"(2) All foreign physicians who have been licensed to practice in the United States be brought under the jurisdiction of the Procurement and Assignment Board and, if they are not eligible for Army or Navy duty, they shall be placed in other governmental service for the duration of the war."

The committee recommends approval of this resolution, and I so move.

....The motion was seconded.....

DR. LAURANCE D. REDWAY, Westchester: It is my understanding that the Procurement and Assignment Service has no authority whatever to assign anybody any place anywhere but merely to furnish material to be assigned by the service generally. If I am correct in that, I cannot see how this motion can be entertained for the approval of this resolution.

SPEAKER BAUER: Maybe Colonel Kopetzky could enlighten us.

A question has been raised in reference to this resolution (handing Colonel Kopetzky a copy of Dr. Carroll's resolution) as to whether or not the Procurement and Assignment Service has any authority to assign any physician anywhere, or whether theirs is purely an informative function, namely, getting the necessary information and availability of an individual for such assignment.

PRESIDENT KOPETZKY: Procurement and Assignment catalogues physicians according to their capabilities and their availability. In estimating availability, it asks the institutions where they are working, it asks competent committees in the communities where they practice, and, lastly, if they are connected with teaching institutions or

state health departments, how they rate them. Then all that information goes to Procurement and Assignment, and they assign the man on requisitions of various agencies, the Army, the Navy, the Panama Service, the Indian Service, full-time Civil Service, full-time civilian defense, etc., according to the requisitions coming in from these agencies for doctors.

SPEAKER BAUER: Thank you, Doctor!

Apparently the point made by Dr. Redway was in order.

DR. WALTER P. ANDERTON, New York: What states reciprocate with New York State in the licensure of physicians?

DR. GUESS: There is no reciprocity that I know of.

DR. ROONEY: There is no reciprocity of New York with any other state in the Union.

SPEAKER BAUER: In view of the points which have been raised, I think if there is no objection we will recommend the resolution for redrawing.

DR. GUESS: In all fairness to the committee, let me say that we realized there is no reciprocity of New York State with any other state in the Union, but Procurement and Assignment has nothing to do with reciprocity. When that begins to work, it will not be necessary to have reciprocity for the man to practice in the other state.

CHORUS: Read it again!

SPEAKER BAUER: Will you read that again? Some of them apparently did not hear it or wish it read again.

DR. GUESS: The resolution reads:

"Pursuant to Surgeon General Parran's editorial of recent date in the *Journal of the American Medical Association*, concerning the shortage of medical practitioners throughout the country and advocating the lessening of licensure restrictions in the case of foreign physicians, we of the Medical Society of the County of Rensselaer respectfully submit:

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We have no reciprocity, so that would have to be deleted, but according to the intent of the resolution, applying it to the Procurement and Assignment it seems to be irrelevant anyway, so we could delete the clause "that meet with New York State's reciprocity laws," and not affect it in any way.

"(2) All foreign physicians who have been licensed to practice in the United States be brought under the jurisdiction of the Procurement and Assignment Board and, if they are not eligible for Army or Navy duty, they shall be placed in other governmental service for the duration of the war."

PRESIDENT KOPETZKY: Gentlemen, if there is one group in the community who are between the devil and the deep sea it is the foreign physician. National Headquarters says it is a New York problem. If our native sons are put into the service, and if our native sons must leave

ten years in a foreign country, and has since come to this country—if you want him to do nothing for five years, waiting for citizenship, you are either going to drive him into illicit practice or you are going to make him a recipient of relief, whether it be official or nonofficial, direct or indirect, and some other part of the community will have to support him.

Don't forget one other factor, gentlemen. The Medical Practice Act was not intended to act as a bar to any qualified man to practice medicine. It was enacted with the idea of protecting the community from illicit, unqualified practitioners, and I believe sooner or later by injudicious action of the medical profession itself that differentiation, and decision, and interpretation will have to be made. You will force it into the courts, and then these ancillary regulations that the Regents are making to protect us from the quantity of men who enter practice rather than protect us from the quality of men who enter practice will be decided by our courts.

As far as my weak voice can influence you, I would suggest in the interests of the Regents as well as in the interests of this State Society and its dignity that we should leave this question alone.

DR. HOMER J. KNICKERBOCKER, *Ontario*. I move we table the matter.

The motion was seconded by several.

SPEAKER BAUER: It has been moved and seconded that the resolution be tabled. All those in favor of tabling it say "Aye"; those opposed, "No." Apparently the motion is lost, but the chair will call for a rising vote. All those in favor of tabling the resolution will please rise.

Eighty-one arose.

SPEAKER BAUER: Now those opposed to tabling the resolution will please rise.

Sixty-three arose.

SPEAKER BAUER: The motion is tabled by a vote of eighty-one to sixty-three. (Applause)

Section 45

Report of Reference Committee on Report of the Council—Part VI: Medical Relief

DR. ROY B. HENLINE, *New York*. Your committee wishes to compliment the Subcommittee on Medical Relief, of which Dr. E. Christopher Wood is chairman, on the tremendous progress it has made toward the solution of this difficult problem of medical relief, and approve their report as published. The principles governing working arrangements between the medical profession and the Departments of Public Welfare have been previously reported. During the past year many conferences and discussions have led to a joint statement by the Subcommittee on Medical Relief and the Departments of Public Welfare outlining their progress. Through the combined efforts of these two agencies the medical care plan has been instituted in our state.

Under the general principles set forth, great strides have been made in procuring good medical care of all types for persons on relief, only through the complete understanding and cooperation of the Subcommittee on Medical Relief of the Medical Society of the State of New York in conjunction with the Departments of Public Welfare. This work has not yet been completed, and, through wider experience, many of the path-

ways for this service may have to be altered. There are still many features which are not completely desirable to either group, but they have accomplished much through their cooperation and understanding and willingness to sacrifice many of these controversial points for the general good of the patient. It is hoped that this work can continue under their competent leadership. We wish to commend Deputy Commissioner Lee C. Dowling and Dr. H. Jackson Davis for their splendid cooperation with the Medical Society of the State of New York. It is suggested that attention of the membership be called to a Special Article on "New York State's Public Medical Care Program," which will appear in the May 1, 1942, issue of the *State Journal*.

I move the approval of the complete report.

The motion was seconded.

SPEAKER BAUER: You have heard the report of the reference committee. It has been moved and seconded that it be adopted. Is there any discussion?

DR. ARTHUR J. BEDELL, *Past-President*. A question of information—I would like a little information regarding the record of this man Davis that is specifically recommended for his activities because, if my memory serves me well, it might be illuminating for this organization to understand whom they are recommending today.

SPEAKER BAUER: Dr. Wood, would you like to answer that question?

DR. E. CHRISTOPHER WOOD, *Westchester*. I would like to have the chairman of the reference committee re-read that portion. I am not sure I remember the wording.

DR. HENLINE: "We wish to commend Deputy Commissioner Lee C. Dowling and Dr. H. Jackson Davis for their splendid cooperation with the Medical Society of the State of New York."

DR. WOOD: In answer to Dr. Bedell's question, I interpret that to mean that the committee commends the cooperation of these two men in working out whatever solution we have so far obtained, and does not refer to, shall we say, the past record of either of these men.

DR. BEDELL: I move you, sir, as a substitute that we recommit this portion of the report for further clarification before action is taken on it.

The motion was seconded.

SPEAKER BAUER: It has been moved and seconded that this portion of the report be re-committed.

SECRETARY IRVING: It so happens that I have had the privilege of sitting in with Dr. Wood's committee and representatives of the State Department of Social Welfare throughout the last two years in all this work. I can state without the slightest reservation that the cooperation of those two men has been during that time excellent, and that is all that I understand the commendation of the reference committee indicates. I do not think it needs to be re-committed.

SPEAKER BAUER: Is there any further discussion?

The question was called for, and the motion to recommit was put to a vote, and was lost.

SPEAKER BAUER: The report is before you for your consideration as to its adoption. Is there any further discussion?

other than Canada be required to have full citizenship, premedical and medical education comparable with class A medical schools of the United States and Canada."

The committee, Mr. Speaker, wishes to bring this before the House of Delegates by paragraph, or in two parts.

Paragraph 1—the committee is agreed and recommends a vote be taken on this paragraph at this time.

SPEAKER BAUER: Will you read that paragraph again, please?

DR. GUESS: It reads:

"WHEREAS, the large influx of foreign-educated physicians permitted to practice medicine in this state without known scholastic and medical training has tended to lower the standards of medical ethics and practice;"

SPEAKER BAUER: Well, what about it?

DR. GUESS: We move the adoption of that paragraph.

DR. GEORGE S. TOWNE, *Saratoga*: I second the motion.

SPEAKER BAUER: I think the motion is out of order in that you cannot adopt a preamble to a resolution before you adopt the resolution itself. You can adopt the resolution and then modify the preamble to suit the resolution, but if you adopt the preamble first, then you may have adopted something that may have no bearing at all on the body of the resolution.

DR. J. RICHARD KEVIN, *Past-President*: We have no power to suggest to the Regents to modify their requirements that I know of.

CHORUS: We have.

SPEAKER BAUER: I will rule that motion out of order, Dr. Guess. Do you want to go on to the resolution itself?

DR. GUESS: Paragraph 2—after prolonged and considerable discussion the committee believes that this paragraph, deleting the reference to Canada, be brought to a vote of the House of Delegates without comment.

SPEAKER BAUER: Will you read the paragraph involved so it may be clear in the minds of the House?

DR. GUESS: The second paragraph reads:

"Resolved: That applicants for the practice of medicine in this state from foreign schools other than Canada be required to have full citizenship, premedical and medical education comparable with class A medical schools of the United States and Canada."

SPEAKER BAUER: The committee makes no recommendation except to delete the words with reference to Canada. Is that correct?

DR. GUESS: Right.

SPEAKER BAUER: There is no motion before the House.

DR. JOHN L. EDWARDS, *Columbia*: I move it be adopted.

SPEAKER BAUER: Do you move the adoption with the deletion of the words with reference to Canada?

DR. EDWARDS: I do.

.... The motion was seconded by several....

DR. HARRY ARANOW, *Bronx*: I would like to know from Dr. Lawrence whether or not this will require a change in the state law.

SPEAKER BAUER: Dr. Lawrence, can you answer that question?

DR. JOSEPH LAWRENCE: What was the question?

SPEAKER BAUER: The question was whether or not the adoption of this resolution as moved would require a change in the state law.

DR. LAWRENCE: It would.

SPEAKER BAUER: Does that answer your question?

DR. ARANOW: Yes.

SPEAKER BAUER: Is there any other question, or any other discussion?

DR. JAMES F. ROONEY, *Past-President*: I hate to disagree with my good friend, Dr. Lawrence, but in this case I do disagree with him. I don't think it does embody any special change in the state law; it embodies a change in the regulations of the Board of Regents. The resolution requires citizenship, and that will embody a change in the law, but the remainder of it will require no change in the basic law.

DR. ALFRED HELLMAN, *New York*: I should like to move a substitute resolution as follows: That the resolution as read be adopted omitting the word "Canada" and omitting the requirement of full citizenship.

CHORUS: No.

SPEAKER BAUER: Dr. Hellman has moved a substitute motion, or really an amendment to the motion by deleting the requirement of full citizenship. Is that seconded?

.... There was no response....

SPEAKER BAUER: There is no second to your motion, Dr. Hellman, so it is lost.

Is there any further discussion of the motion?

PRESIDENT KOPETZKY: I am sorry that Dr. Madill is not present. We have had this kind of a resolution before in this House. I well realize the emotional reaction which is back of the resolution and back of the recommendations of the committee, and I am totally unconcerned whether you pass it under this emotional reaction or whether you do not. But this, please, remember: If you insist on citizenship for these men, some politician who wants to find a cause to reach the headlines will use that as a platform, and, as Dr. Madill said here when such a motion was pending—I think last year and also the year before—you will open the Medical Practice Act, involving citizenship and a whole lot of other questions, in your state legislature, which under an emotional reaction will not be to the best interests of the practicing physicians.

There are a limited number of men who have come in under our laws. The Regents up to date have insisted on giving every one of them an examination. There is no more endorsement of licensure. During the war period immigration has stopped. Your problem is no larger than the quota of these men that are now before you. These are facts that you should remember, and also bear in mind that it is through no fault of theirs that they are here. It is no fault of theirs any more than it was the fault of my ancestors when they came here. Except those who landed at Plymouth Rock and those who were among the original Dutch settlers in New York, if you look back at all the rest who came here, at some time each one of us came just as these men came, although not driven out and totally dissociated from all worldly goods as these men were when they arrived.

A man who has been practicing eight, nine, or

DR. BEDELL: To instruct the Council as to our desire.

SPEAKER BAUER: It will not interfere with the other motion. You are correct.

DR. KLEIN: I move the *Directory* be not printed during the coming year.

DR. BEDELL: I second that.

SPEAKER BAUER: It has been regularly moved and seconded that the *Directory* be not printed during the coming year.

DR. HARRY ARANOW, *Bronx*: I think that was passed in the original motion that it be not published this year.

SPEAKER BAUER: I thought it was merely left to the discretion of the Council, without any specific instructions. The motion before you, then, is that the *Directory* be not printed during the coming year. Is there any further discussion on it?

... The question being called, the motion was put to a vote and was carried. ...

DR. KLEIN: 2. The Board of Trustees should be memorialized to effect as many savings as they can in various committees.

3. The county medical societies should be asked to discriminate between members who can and those on whom it would be a hardship to pay dues during the term of their service.

I want to explain that the committee felt that too many men, though in the service, can very well afford to pay the dues, and with such a deficit as we will be faced with, probably next year, more careful recommendations for the reduction of dues should be made by the county societies to the Council which has, I understand, the power to reduce.

SPEAKER BAUER: The resolution passed last year was to the effect that the Council in its judgment could remit dues, a part or all of the dues.

DR. KLEIN: 4. The Board of Trustees should be empowered to use some or all of the income from investments or from the reserve fund for expenditures that may not be covered by the income from dues during the year 1942.

SPEAKER BAUER: I think that that is contrary to the Bylaws. The Bylaws specifically state that all motions with reference to the expenditure of funds must be approved by the Board of Trustees. They already have that authority, and therefore I think the motion itself is out of order.

SECRETARY IRVING: Mr. Speaker, may I say a word? This House has gone on record several times about not using the income from investments but putting that back into a war chest, so that I think you would have to have the House authorize the Trustees to that effect.

SPEAKER BAUER: A resolution or motion to the effect that is the opinion of the House that the Trustees should in their discretion use this income from investments would be in order, but I think as drawn this is out of order. Do you wish to reword it in accordance with the suggestion?

DR. KLEIN: I would be glad to.

SPEAKER BAUER: The committee simply recommends that the House recommend to the Trustees that they use the income from investments, if they deem it necessary to do so.

DR. KLEIN: Yes, I so move.

... The motion was seconded, put to a vote, and was unanimously carried. ...

DR. KLEIN: Your committee wants to compliment the treasurer for a clear and concise report, and Dr. Peter Irving for his assistance to the committee; also Mr. Anderson and Dr. Winslow. I move the adoption of the report as a whole as amended.

... The motion was seconded, and as there was no discussion, it was put to a vote, and was unanimously carried. ...

SPEAKER BAUER: Thank you, Dr. Klein!

Section 47. (See 8)

Report of the Reference Committee on Report of the Council—Part III: School Health Program

DR. LEO F. SCHIFF, *Clinton*: Your committee has considered the report and supplementary report of the Council subcommittee on school health. We note with approval that the Council has continued its efforts as directed by the House of Delegates at the 1941 session, and share in their dissatisfaction that, notwithstanding discussions last year by the representative subcommittees of the Regents Advisory Council and of the State Medical Society, the State Department of Education has shown no disposition to make the basic changes in departmental procedure that were recommended by the State Medical Society in 1940.

We approve of the eight principles laid down on pages 641 and 642 of the report under the headings "General," "School Health Service," and "Health Education."

We recommend that the Council through its subcommittee continue its efforts to bring about the changes whereby supervision of health and health problems among children of school age be under the charge of physicians. If this cannot be achieved through the cooperation of the State Education Department, we recommend that further steps be taken, particularly efforts to bring the matter to the attention of Parent-Teachers Associations, to the bodies interested in the school health problem, and to the public in general, and if necessary through attempts to secure legislative action.

I move the adoption of this portion of the report.

... The motion was seconded, and there being no discussion, it was put to a vote and was unanimously carried. ...

DR. SCHIFF: We present the following as the minimum requirements for an adequate school health setup:

1. That it be directed by a physician of experience in these matters and with a broad viewpoint of the responsibilities of the school for the health of its pupils; and that he have authority and sympathetic cooperation of the heads of the other divisions in his department.

2. That the program cover complete health supervision of children during their school life, including not only physical examination and attention to correction of defects, but any other matters that affect health, such as the physical condition of school rooms, the relation of study hours to recreational hours, and types of recreation.

3. That these health benefits be extended equally to all children attending schools, whether under direct charge of departments of education or not.

....The question was called for, and the motion was put to a vote, and was carried.....

(A five-minute recess was taken at this point.)

SPEAKER BAUER: The House will be in order.

Section 46. (See 7)

Report of Reference Committee on the Reports of the Treasurer and Board of Trustees

DR. W. KLEIN, *Bronx*: *Report of the Board of Trustees*—Your reference committee studied the reports of the Board of Trustees. Their concern about the future financial standing of the Society is well taken. It is cheering to see that they were and are alert and have the foresight so important at this time. Their recommendations for economy to the various heads of committees was a timely and important warning.

Your committee has no comments except to congratulate them on their performances for the year. I move the adoption of this report as printed.

....The motion was seconded, and there being no discussion, it was put to a vote and was unanimously carried.....

DR. KLEIN: *Report of the Treasurer*—The yearly report of the treasurer as printed gives but scant information for a thorough study and understanding of the financial state of our organization. Unless we read these reports in conjunction with many activities during the current year and compare those with reports and activities of previous years, we are apt to fail in a proper understanding of the figures. Your committee studied the report and compared this with various activities and with a view to the future. The first item to be noted is the income. It compares well with the 1940 figures. The total income for 1940 was \$179,148, while that of 1941 was \$176,369. The difference was due to the collection of dues in arrears amounting to \$8,664 in 1940, while in 1941 income from the same source was only \$2,237. The accountant's figures show an income over expenses for the year 1941 of only \$11,517 as against \$18,982 in the previous year. The difference is more apparent than real. Our inventories compared to liabilities are more by nearly \$3,400, while there was an appreciable decline in the income from investments. The apparent rise in the Public Relations Bureau of nearly \$5,000 is not to be taken at its face value. The allocation of part of the salaries previously paid out to administration and other bureaus were charged to this activity. The District Branch Executive Committee meetings cost nearly \$400 more than in previous years. We mention these figures not to bore you but to bear in mind the constant rise in cost of management of our organization. The reason for this is the constant expansion of our activities. Your committee is anxious about the near future. Last year it was not predictable, while at this time we can safely say that the economic outlook for our Society is not cheering. Aside from many members being called to the colors who will have their dues remitted, the new graduates will be inducted in the Army and will not join with organized medicine during the duration. We will therefore have a marked reduction in income. Our estimate is that the income will be less by about \$35,000, not counting the possible

reduction in income from investments. These will certainly not be on the increase.

At Dr. Irving's suggestion this placard was made in the office, which I simply enlarged [holding it up], and which shows the comparative rise in membership from year to year for a number of years:

1928.....	11,806
1929.....	12,314
1930.....	12,812
1931.....	13,195
1932.....	13,457
1933.....	13,299
1934.....	13,417
1935.....	14,064
1936.....	14,662
1937.....	15,529
1938.....	16,177
1939.....	16,785
1940.....	17,409
1941.....	17,781

As you see, in 1941 we had 17,781 membership, and in 1928 we had 11,806. These increases will not occur during the coming year.

An attempt was made to estimate the decline in membership or the decline in income from dues membership, and this graph was made [holding it up]. However, I think it is very, very conservative, and it will come down to about 15,000 by the end of 1942.

In our present state of the nation new activities and burdens are constantly added which we as citizens and as organized medicine will not shirk. Our organization may have to undergo an economic change which is unprecedented. If we continue to sustain all activities as of the past year and the new ones added, such as Procurement and Assignment work, a saving in expenditures is an apparent improbability. There surely will be some savings in the publication bureau with a constant increase in advertising matter, but your committee fails to see where substantial reductions can be made without curtailing important activities that have taken years to bring into existence.

The treasurer's report is a fine example of well-managed business. Your committee begs to make the following recommendations:

1. The *Directory* should not be printed during the year. This will effect a saving of a number of thousands of dollars.

SPEAKER BAUER: That already has been voted on—that it is to be left to the discretion of the Council.

DR. KLEIN: We recommend that the *Directory* be not printed next year.

SPEAKER BAUER: The House has already taken action which I think makes that motion unnecessary at the present time.

DR. ARTHUR J. BEDELL, *Past-President*: Question of information—I was out of the House when the House took action on that. What was the action?

SPEAKER BAUER: The action of the House was that the *Directory* should be printed at the discretion of the Council during the emergency.

DR. BEDELL: Could we not take action on this as well?

SPEAKER BAUER: Yes, you can, if you wish to.

bursed by the Federal Government, it was brought to our attention that New York State desired to participate in these federal funds. Therefore they wished to change the method, and instead of paying the doctor directly to pay the patient directly.

I wish to bring to your attention that we, your subcommittee and the others attending this conference, were placed by this proposal in a very difficult position as to judging and forming an opinion either for or against this proposal. If we said that we were opposed to it, we would be immediately subjected to very serious judgments. First of all, it could be said that the New York State Medical Society opposed a procedure of the State Department of Social Welfare which would permit the state to receive some six, seven, or eight hundred thousand dollars from the Federal Government. Secondly, the State Society or its representative would be put in the position of saying in effect that they had no faith in the integrity of the relief client to pay his own bills. So your committee said it would go along and observe this method of payment, which it has done.

The subcommittee made every effort to inform the Society and the whole membership that it wished each county society in its locality to keep records, if possible, of just how this worked out, and requested each group to notify your subcommittee if it had objections.

We have received statements that various localities have objected to this method. We have not, however, received any definite factual material that we could present to the State Department which would show exactly upon what factual grounds these objections were based.

I would like to say now entirely from my own standpoint—because I am not certain how the subcommittee feels about this—that I feel it would be a big mistake for this Society to go on record as favoring a return to the old system of the state paying the doctor directly.

Two years ago, as I recall it, in Buffalo, we met with several representatives of the Federal Social Security Board, and at that time they were very much in favor of paying the patient for medical services because they felt that that upheld the integrity and the independence of the relief client, that it permitted him to pay his own doctor in exactly the same manner that the self-supporting population did, and that it taught him to be independent, and, in a sense, self-reliant, and to budget what money he had.

If we object to this, and if we go on record as favoring going back to the old system of paying the doctor directly, it seems to me very, very definitely that we are favoring a form of state medicine. We are favoring a procedure in which the state pays the doctor directly for medical services. The patient has no part in the financial transaction. He has no part in deciding how much or how little, perhaps, he can spend in any one month for medical services. I believe also that it is the intention of the Federal Government and also of the state government to change this resolution, and on their part to return to the system of paying the physician directly. I hope I am not being unfair, but I cannot help but believe that this return to this system of paying the doctor directly is not without motive. Therefore, I would ask of you to consider this proposal very carefully, and I trust that you will not ap-

prove a return to the indirect method of paying the physician directly.

SPEAKER BAUER: Is there any other discussion?

DR. ABRAHAM KOPLOWITZ, Kings: Mr. Speaker and Gentlemen, this resolution was offered by Kings County because the membership in our county had requested it. Various members had spoken to us personally about it, and some had written in demanding it.

It seems that the Federal Social Security Board, or whatever the agency involved is, would rather pay it to the patient than the doctor, but let us see how that works out. They limit the price they are going to pay. It is not the personal relationship between doctor and patient, so that the doctor will charge whatever he pleases or thinks he is worth. There is a certain fixed sum. The number of times he is going to call depends upon the condition. They are giving the patient money to pay the doctor, which a number of patients do not do.

DR. WOOD spoke about a motive being behind it. Of course there is a motive: to get paid for the work you do. We know the charitable organizations very often do regulate it a whole lot more clearly perhaps—let us say—than giving it to the patient. In New York City, where a great deal of money is given out for relief, a great many of you know that they get tickets to buy groceries. Well, why not give them the money? Everything is regulated. We are not asking for anything unusual. We are asking that for the service we give, for which the price is limited, we should be paid.

In what way is that degrading to the patient? I don't see that we have to worry particularly about causing any bad effect. We are asking for what is coming to us. The least we can do is to ask for it, and if we don't get it we can shut up. We are meeting economic conditions as they exist, and I don't see why we should pussyfoot around this.

SECRETARY IRVING: It is my information that for the Greater City of New York the experience up to date is that only 5 per cent have not paid the doctor.

PRESIDENT KOPETZKY: Gentlemen, you heard a number of speakers at various times warning the profession to be on guard, and I am here now again to ask you to be true to the principles that you have been reiterating for years. When it did not concern particularly the individual's pocketbook, we stood for the principle that we wanted no intervention between our patient and ourselves.

We are trying to scrutinize every measure that comes up, on which there is government money expended for medical services, with the criterion that there shall be no intervention between the patient and ourselves. The dilemma in which the Council found itself during the last year was to make the desires of the various doctors to get the money due them from the client fit in with the criterion that no second party—and that includes government—shall intervene between the doctor and the patient. Therefore, your decision this afternoon will imply a further nibbling away of a fundamental principle that you have repeatedly enunciated and that you stand for. Don't say—I don't remember the figures Dr.

I move the adoption of this portion of the report.

.... The motion was seconded, and there being no discussion, it was put to a vote and unanimously carried.

DR. SCHIFF: We approve the recommendation that Section 491 of the Education Law be altered to require that State grants to local school authorities be made on the basis of school enrollment rather than of daily attendance. The reason for this is obvious: Under the present system, many children who should stay at home are urged to attend school in order to keep up the attendance record for the purpose of increasing the State-Aid grant.

I move the adoption of this portion of the report.

.... The motion was seconded, and there being no discussion, it was put to a vote and unanimously carried.

DR. SCHIFF: As to the supplementary report of the committee, your reference committee has reviewed this report and concurs completely with the recommendations therein submitted by the special subcommittee consisting of Drs. A. Clement Silverman and William E. Ayling, disapproving of the proposal to add an hour to each school day for physical education activities. I move the adoption of the supplementary report.

.... The motion was seconded, and as there was no discussion, it was put to a vote and unanimously carried.

DR. SCHIFF: I now move the adoption of the report as a whole.

.... The motion was seconded, and as there was no discussion, it was put to a vote and unanimously carried.

Section 48. (See 29)

Report of Reference Committee on New Business B—1943 Annual Meeting, Invitation to Buffalo

DR. MASTERSON: This is a resolution from Erie County:

"WHEREAS, the 1941 Annual Meeting of the Medical Society of the State of New York was a great success in Buffalo; and

"WHEREAS, the President-Elect, George W. Cottis, is a resident of western New York; and

"WHEREAS, the Medical Society of the County of Erie would indeed deem it an honor and great pleasure to have its colleagues from the rest of the State meet in Buffalo; therefore be it

"Resolved, that the Medical Society of the County of Erie extend an invitation to the Medical Society of the State of New York to hold its 1943 Annual Meeting in Buffalo."

Our committee looks with favor upon the invitation of the Medical Society of the County of Erie to hold its 1943 Annual Meeting in Buffalo, and would recommend the Council be apprised of our action.

I so move.

.... Discussion, it was put to a vote, and was carried.

Section 49. (See 16)

Report of the Reference Committee on New Business B—Medical Relief, Direct Payment of Medical Fees

DR. MASTERSON: On the resolution presented by Dr. Koplowitz, of the Kings County Medical Society, reading:

"WHEREAS, under the Social Security Act payments for medical care given to recipients-of-aid from the Blind, Old Age, and Dependent Children's divisions of the Department of Social Welfare can no longer be made to physicians directly, but, instead, these payments must be made to the patient; and

"WHEREAS, this method of payment has worked a hardship on the physicians who have rendered medical care to these persons by forcing them to make one or more additional calls to collect their bills; and

"WHEREAS, in New York City it has been proven that nearly 5 per cent of these patients have not paid their doctors for medical care rendered with the money which the State Department of Social Welfare gave them, but instead have spent the money for other uses; and

"WHEREAS, we are informed by the New York City Department of Welfare that this percentage is only a fraction of the number of patients who did not pay their physicians for medical care, as shown by the great many complaints from physicians who have telephoned to that Department, rather than written letters which could be submitted in evidence; and

"WHEREAS, a similar resolution was introduced into the House of Delegates of the Medical Society of the State of New York at Buffalo, in 1941, at which time it was agreed that the State Society would carefully watch the experiment of using this method of payment; and

"WHEREAS, we feel that in New York City this experiment has not been a success; therefore be it

"Resolved, that the New York State Medical Society, through its Delegates to the American Medical Association, request that the American Medical Association have legislation initiated to provide a change in the Social Security Act so that persons rendering medical care to recipients-of-aid from any government agency may be paid directly by that agency,"

your committee recommends the approval of this resolution.

I so move.

.... The motion was seconded.

SPEAKER BAUER: The committee moves the adoption of the resolution. Is there any discussion?

DR. E. CHRISTOPHER WOOD, *Westchester*: Mr. Speaker and Members of the House, in regard to your consideration of this report and this resolution, I would like to bring to your attention the following: It has been the custom for a number of years for this state at least—New York State—to pay physicians directly for their services to medical relief clients, and although the physician is paid directly, that is called the indirect method of payment. Last year, because the Federal Social Security Board was in favor of paying the patient rather than the doctor the money for the services rendered by physicians, this was called the direct payment, and because the Social Security Board insisted that this method be adopted if a state were to be reim-

to record itself as being opposed to this procedure; and to have the Medical Society of the State of New York also request the Department of Welfare to pay those physicians directly, as heretofore; and be it also

"Resolved, that the Medical Society of the State of New York recommend to the American Medical Association to request the Government at Washington to alter that provision of the Social Security Law necessary to permit doctors to be paid directly."

Inasmuch as the matter covered by this resolution is practically the same as that introduced by Dr. Koplowitz, of Kings, we do not feel it is necessary to take any action on the resolution introduced by Dr. Gibbs, Jr., of New York.

SPEAKER BAUER: Inasmuch as the resolution is practically identical, the chair will rule no action is essential on this resolution.

I will ask Dr. Masterson if he would mind deferring the rest of his report until tomorrow morning because there are a number of resolutions that the delegates wish to present, and it would help their consideration considerably if they could be presented this evening so that the reference committees can get them in their hands as soon as possible.

Section 51. (See 68)

Social Security, Physicians

DR. B. M. BERNSTEIN: My resolution concerns social security for physicians when, as, and if social security should so have its base widened as to include many more than it includes at the present time. Even though I am instructed by the Society—

SPEAKER BAUER: Please don't discuss your resolution; you can discuss it all you want to when the reference committee brings it in.

MR. BERNSTEIN: My resolution reads:

"Resolved, that the Delegates of the Medical Society of the State of New York to the American Medical Association be instructed to petition the American Medical Association to study Social Security and methods whereby physicians may participate in its program and benefits."

SPEAKER BAUER: This resolution will be referred to the Reference Committee on New Business A, of which Dr. Simpson is the chairman.

Section 52. (See 70)

Workmen's Compensation Fee Schedule

DR. RAYMOND F. KIRCHER, Albany: This resolution is from the Medical Society of the County of Albany and concerns the Workmen's Compensation Fee Schedule:

"WHEREAS, the Workmen's Compensation Fee Schedule has been in existence in this State since 1935; and

"WHEREAS, at the time of its adoption many items were generally considered too low; and

"WHEREAS, there has been an increase in the cost of conducting practice due to a general price rise amounting in some necessary items to as much as 35 per cent; therefore be it

"Resolved, that the Delegates from the Medical Society of the County of Albany be instructed to introduce a resolution at the next

meeting of the House of Delegates to the effect that the Council of the Medical Society of the State of New York through its appropriate representatives take immediate steps to review the present fee schedule with the Commissioner of Labor with a view of increasing the minimum fees now established by law (suggested increase 25 per cent), and that the component County Societies be informed from time to time of the status of these proposed negotiations with the Commissioner of Labor."

SPEAKER BAUER: This will be referred to the Reference Committee on New Business C, of which Dr. Guess is the chairman.

Section 53.

Constitution and Bylaws—Proposed Amendment

DR. NATHAN B. VAN ETTEN, Past-President: In the interests of promoting a better coordination between the scientific and the administrative functions of the Medical Society of the State of New York, I desire to present an amendment to the Bylaws:

"Be it resolved, that Section 1 of Chapter II of the Bylaws of the Medical Society of the State of New York be amended so as to provide for the inclusion in the membership of the House of Delegates a representative from each scientific section, and that Section 1 of Chapter II of the Bylaws of said Society be amended so as to read as follows:

"Section 1. The House of Delegates shall be composed of (a) Delegates elected by the component County Medical Societies; (b) Officers of the Society and other members of the Council and of the Board of Trustees; (c) the Presidents of the District Branches sitting as District Delegates; and (d) a representative from each Scientific Section to be elected by each such Section. Past-Presidents of the Society shall be life members of the House of Delegates. Each component County Society shall be entitled to elect as many delegates as there shall be State Assembly Districts in such county at the time of the election, but each component County Medical Society shall be entitled to elect at least one delegate. A component Society representing by its name more than one county shall be entitled to as many delegates as there are Assembly Districts in the counties named in the title of such society."

SPEAKER BAUER: This being a proposed amendment to the Bylaws, it must remain in the secretary's hands for one year, when it will be acted on next year after being published at least once.

Section 54. (See 86)

Proposed Subcommittee on Chest Diseases

DR. NELSON W. STROHM, Erie: I wish to introduce the following resolution:

"WHEREAS, at the 1941 meeting of the House of Delegates in Buffalo, New York, a resolution was introduced asking for a session on chest diseases by the New York State Chapter of the American College of Chest Physicians; and

"WHEREAS, the House of Delegates Refer-

Irving just gave you—"because 15 per cent failed to pay their doctor."

SECRETARY IRVING: Five per cent.

PRESIDENT KOPETZKY: "Five per cent failed to pay; therefore, let us scrap our principles and change the method of payment, and permit and endorse the government's paying directly to physicians rendering medical services in the community to underprivileged groups." Here is a test of the sincerity as to whether you practice what you preach.

SPEAKER BAUER: Does anyone else wish to discuss this subject?

DR. PETER MURRAY, *New York*: I should greatly desire to support any movement which would preserve the principles for which we have fought for so long; that is, that there shall be no interposition of a third party between the doctor and the patient, but I am more concerned about being realistic.

Up in my section of the town we do a lot of relief work. If we had to depend on collecting the fees for that relief work from the patient we would be doing all that relief work for nothing. I cannot see the difference between expecting relief clients to pay the doctor and having the Welfare Department send the check on to the doctor, and having the old-age people pay the doctor and having that Department send the check on to the doctor. There has been an interposition between us and those clients already, namely, the municipal authorities or the government authorities. They assign to you cases. They tell you how often you shall see them. They fix your rate of compensation. I think it is little enough to try to guarantee to the members of our profession that after we have accepted these conditions, after we have accepted assignments, after we have accepted a limitation of visits, and after we have accepted a reduction of fees, we should be guaranteed the collection of those fees. I wish to say that if we applied the same parallel to relief clients that we do to all the old age, and expect those people in turn to turn the money over to us, the bottom would fall out of the whole relief situation. It would collapse, and the doctors would either do that work for nothing or would not be paid. I hope we will ask for a return of the direct payment to the doctor in order that we may collect the money we honestly have earned.

DR. HAROLD B. DAVIDSON, *New York*: I would only like to add one point to what Dr. Murray has said, referring to the fact that in having these patients as welfare and relief patients the interposition is already there. Maybe there have only been 5 per cent of the doctors who have written in complaining that they have not received such payment, but that 5 per cent may constitute a very large proportion of the doctors in certain sections of the town. I have heard the complaint that Dr. Murray voiced in the downtown section of New York as well as the uptown section. A great many doctors will not take the time to write letters, but they do constantly make telephone calls complaining about it. Furthermore, a number of them will not take such cases, fearing they will not get paid.

The question of the principle goes further than just the payment of the doctors who do the work. It is a question of whether the interposition of the government, which is there, should be there;

but if it is there, the doctors do deserve payment for the work they do.

DR. HARRY ARANOW, *Bronx*: One of the committees of the Council under the able chairmanship of Dr. Wood has been working on this problem for over a year. It is not an offhand opinion that he gives you, therefore, but a considered one. He has told you that it is almost solved without any special resolutions; therefore, I do not see why this action should be taken.

DR. MASTERSON: May I read one paragraph of this resolution apropos of what Dr. Irving and Dr. Kopetzky have said:

"WHEREAS, in New York City it has been proven that nearly 5 per cent of these patients have not paid their doctors for medical care rendered with the money which the State Department of Social Welfare gave them, but instead have spent the money for other uses, and"

SPEAKER BAUER: The question before you is the adoption of the reference committee's report which recommends adoption of the resolution as drawn. Is there anything else to be said? If not, all those in favor of the reference committee's report, which carries with it the adoption of the resolution, say "Aye," those opposed, "No."

The chair is in doubt. Will those in favor of the committee's report stand; now those opposed?

. . . . All but ten were in favor of the motion. . . .

SPEAKER BAUER: The reference committee's report is adopted, and the resolutions are carried also.

Section 50. (See 19)

Report of Reference Committee on New Business B—Medical Relief, Direct Payment of Medical Fees to the Aged, the Blind, and Dependent Children

DR. MASTERSON: The next resolution is from Dr. William Travis Gibbs, Jr., of New York County. This resolution is about the same as the resolution we just discussed, introduced by Dr. Koplowitz, of Kings, and recommends the same thing:

"WHEREAS, after April 1, 1941, checks from the Department of Welfare of the City of New York (Q. V. Form M. med 383 b) for the medical care of those patients entitled to Old Age Assistance and Blind Assistance will be issued directly to the recipients of the care and not to the doctors rendering it; and

"WHEREAS, this is patently unjust, as it forces the physician to collect these fees from indigent people who may be unreliable; and

"WHEREAS, this is an example of the unfair advantages being taken of physicians; therefore be it

"Resolved, that the Medical Society of the County of New York go on record as being opposed to the proposed change in method of payment; and that the Society request the Department of Welfare to continue its former method of paying these physicians directly; and be it further

"Resolved, that this House of Delegates be instructed to vigorously protest this injustice,

"WHEREAS, an outline of this course has been submitted to and the idea approved by the Comitia Minora and the New York County Medical Society, in view of the fact that the Medical Advisory Board, composed of fourteen members of the New York State Medical Society, competent to direct this work, will have complete supervision of the instruction, to guarantee that those who finish this course shall be qualified, competent masseurs; be it
 "Resolved, that the idea of forming such a medically controlled school be approved by the New York State Medical Society."

SPEAKER BAUER: This will be referred to the Reference Committee on New Business C, of which Dr. Guess is the chairman.

Section 58. (See 72)

Basic Science Law

DR. CHARLES GULLO, *Livingston*: The following resolution is introduced by the Livingston County Medical Society to provide a Basic Science Law:

"WHEREAS, there are people in the State of New York practicing the Healing Art without having adequate knowledge of the human body; and

"WHEREAS, experience has shown that it is most difficult and generally futile to effectively prosecute these people even when they have violated the Medical Practice Act; and

"WHEREAS, it is the duty of organized medicine to promulgate medical information and prevent fraudulent and inferior medical service to our people; now, therefore, be it

"Resolved, that the House of Delegates of the New York State Medical Society hereby authorizes and instructs its Legislative Committee to present to the Legislature of the State of New York a suitable bill to correct this condition and that such bill shall provide substantially as follows:

'An Act to provide for examination in the basic sciences, authorizing the Board of Regents to issue a Certificate of Proficiency in the basic sciences, which Certificate shall be a prerequisite to eligibility for examination for license to practice medicine and surgery, osteopathy, osteopathy and surgery, as now prescribed by law, dentistry, or any other system or method of healing that may hereafter be legalized in the State of New York, to define the Basic Sciences, the practice of healing, a license and to provide penalties for the violation of this Act.

'Section 1. Definition as used in this Article:

"Wherever the term, "Practicing Healing," or "Practice of Healing" is used in this Act, unless otherwise specifically defined, the same shall be understood and construed to mean and include any person not herein-after excepted from the provisions of this Act who shall in any manner for any fee, gift, compensation or reward or in expectation thereof, engage in, or hold himself out

to the public as being engaged in the practice of Medicine or Surgery, the practice of Osteopathy, the practice of any legalized method of healing, or the diagnosis, analysis, treatment, adjustment, correction or cure of any disease, injury, defect, deformity, infirmity, ailment or affliction of human beings or any condition or conditions incident to pregnancy or childbirth or examination into the fact, condition or cause of human health or disease or who shall for any fee, gift, compensation or reward or in expectation thereof, suggest, recommend or prescribe any medicine or any form of treatment, correction or cure therefor; also any person or persons, not hereinafter excepted from the provisions of this Act, individually or collectively, who maintains an office for the reception, examination, diagnosis, or treatment of any person for any disease, injury, defect, deformity or infirmity of body or mind, or who attaches the title of Doctor, Physician, Surgeon, Specialist, M.D., M.B., D.O., D.C., or any other word, abbreviation, or title to his name indicating or designed to indicate that he is engaged in the practice of Healing.

'Section 2. Qualifications

'No person shall engage in the "Practice of Healing" unless he shall first have complied with the following prerequisites:

'First: He must pass an examination given by the Board of Regents through its Board of Medical Examiners in the Basic Sciences, namely, Anatomy, Physiology, Physiological Chemistry, Bacteriology, Pathology, and Hygiene, and upon satisfactorily passing such an examination shall receive a Certificate of Proficiency in the Basic Sciences which shall not be interpreted as conferring the right to engage in the Practice of Healing.

'Second: After receiving said Certificate of Proficiency, he must pursue other studies as established by the law and appear before the Board of Choice of the Board of Regents for further examination, and having fulfilled other requirements prescribed by law, he may be licensed to practice.

'Section 3. Exemptions

'All persons already licensed prior to enactment of this Act.

'Section 4. Penalty

'Any person violating any provision or provisions of the foregoing Sections shall be guilty of a misdemeanor punishable by law."

SPEAKER BAUER: This resolution will be referred to the Reference Committee on New Business C, of which Dr. Guess is the chairman.

If there is nothing further to come before the House at this time, we will stand adjourned until nine o'clock tomorrow morning.

... The session recessed at 6:25 P.M....

ence Committee on New Business gave serious consideration to this resolution by recommending to the House of Delegates that a symposium on chest diseases to be furnished by the New York State Chapter of the American College of Chest Physicians be included at a general session of the Annual Convention in 1942; and

"WHEREAS, the New York State Chapter of the American College of Chest Physicians have respectfully requested that a subcommittee on chest diseases of the Council Committee on Public Health and Education be established; therefore be it

"Resolved, that the House of Delegates of the Medical Society of the State of New York establish such a subcommittee."

SPEAKER BAUER: That will be referred to the Reference Committee on New Business B, of which Dr. Masterson is the chairman.

Section 55

Recognition of Services of Civilian Doctors at Pearl Harbor

DR. CHAS. GORDON HEYD, *Past-President*: I wish to present the following resolution:

"WHEREAS, the civilian physicians and surgeons of the Honolulu Medical Society rendered a great service during the Pearl Harbor Attack on December 7, 1941; and

"WHEREAS, at the outset of the emergency they promptly responded to a call for aid from the Tripler General Hospital of the Army, and by their surgical skill and unremitting efforts rendered great aid to the wounded; and

"WHEREAS, by this service a new chapter was added to the successful treatment of war casualties and certain surgical procedures were established which will result in the saving of many lives and limbs from war injuries; and

"WHEREAS, their service was the more outstanding because only a few of them had ever been under fire, and by their courage and stamina they did much to aid the morale of the wounded, of the hospital personnel, and of the civilian population; and

"WHEREAS, the services of the physicians and surgeons were recognized in the official Roberts Report of the Attack by the statement that 92 per cent of the medical profession were available on that eventful historic occasion; therefore be it

"Resolved, that the Medical Society of the State of New York recognize their response to emergency duty and desires to pay a tribute to their demonstration of the traditional willingness of our profession to act promptly and skillfully in all national emergencies."

DR. HEYD: As this does not involve any policy but is a spreading on the minutes of our appreciation of their services, I move you, sir, that the vote be taken now by the entire delegation of the House of Delegates.

... The motion was seconded. ...

SPEAKER BAUER: This amounts to a suspension of the rules and requires a two-thirds' vote. If there is no objection, however, the motion will be put. Is there any discussion on it?

DR. ABRAHAM KOPLOWITZ, *Kings*: Is there a way of notifying the physicians there? I mean

have they any organization where you can write and tell them about this?

DR. HEYD: If it is passed, it would be transmitted to the Honolulu Medical Society, and I think a copy should go to the respective Navy and War departments

SPEAKER BAUER: Is there any further discussion?

... The question being called for, the motion to adopt the resolution was put to a vote and was unanimously carried. ...

Section 56

Thanks to Director of Selective Service in New York City Area

DR. LAURANCE D. REDWAY, *Westchester*: I have a resolution which reads:

"WHEREAS, Col. Arthur McDermott, the Director of Selective Service in the New York City Area, has consulted the convenience of the medical profession assembled in Annual Convention at the Waldorf Astoria Hotel in the City of New York by establishing a branch of his headquarters for the registration of physicians from out of town who are attending this convention, thus permitting them to register as required by the Selective Service law, while at this hotel; therefore be it

"Resolved, that the House of Delegates of the Medical Society of the State of New York hereby expresses its sincere appreciation for this considerate action on the part of the Director of Selective Service in the New York City Area; and be it further

"Resolved, that this expression of our appreciation be sent to Col. McDermott by the Secretary of the Society."

I move the immediate adoption of this resolution.

DR. ALFRED HELLMAN, *New York*: I will second that.

SPEAKER BAUER: It has been moved and seconded that this resolution be given immediate consideration. Is there any objection? If not, is there any discussion?

... There being no discussion, the motion was put to a vote, and it was unanimously carried. ...

Section 57. (See 71)

Blind Masseurs, Request for Approval of Instruction

DR. MADGE C. L. MCGUINNESS, *New York*: I have a resolution which is as follows:

"WHEREAS, there does not exist, at the present time, any school for the instruction of blind adults in massage and remedial exercise similar to St. Dunstan's in London; and

"WHEREAS, the New York Institute for the Education of the Blind is not permitted to give instruction of any kind to persons over twenty-one years of age, but having facilities, wishes to make them available for adult instruction; and

"WHEREAS, such a course of instruction has been outlined covering about 963 hours, over a period of nine months, it has been proposed to form a school tentatively known as 'The National School for Blind Masseurs,' under the auspices of the National Association of Blind Masseurs. Incorporated, and

"WHEREAS, an outline of this course has been submitted to and the idea approved by the Comitia Minora and the New York County Medical Society, in view of the fact that the Medical Advisory Board, composed of fourteen members of the New York State Medical Society, competent to direct this work, will have complete supervision of the instruction, to guarantee that those who finish this course shall be qualified, competent masseurs; be it

"Resolved, that the idea of forming such a medically controlled school be approved by the New York State Medical Society."

SPEAKER BAUER: This will be referred to the Reference Committee on New Business C, of which Dr. Guess is the chairman.

Section 58. (See 72)

Basic Science Law

DR. CHARLES GULLO, *Livingston*: The following resolution is introduced by the Livingston County Medical Society to provide a Basic Science Law:

"WHEREAS, there are people in the State of New York practicing the Healing Art without having adequate knowledge of the human body; and

"WHEREAS, experience has shown that it is most difficult and generally futile to effectively prosecute these people even when they have violated the Medical Practice Act; and

"WHEREAS, it is the duty of organized medicine to promulgate medical information and prevent fraudulent and inferior medical service to our people; now, therefore, be it

"Resolved, that the House of Delegates of the New York State Medical Society hereby authorizes and instructs its Legislative Committee to present to the Legislature of the State of New York a suitable bill to correct this condition and that such bill shall provide substantially as follows:

'An Act to provide for examination in the basic sciences, authorizing the Board of Regents to issue a Certificate of Proficiency in the basic sciences, which Certificate shall be a prerequisite to eligibility for examination for license to practice medicine and surgery, osteopathy, osteopathy and surgery, as now prescribed by law, dentistry, or any other system or method of healing that may hereafter be legalized in the State of New York, to define the Basic Sciences, the practice of healing, a license and to provide penalties for the violation of this Act.

'Section 1. Definition as used in this Article:

'Wherever the term, "Practicing Healing," or "Practice of Healing" is used in this Act, unless otherwise specifically defined, the same shall be understood and construed to mean and include any person not hereinafter excepted from the provisions of this Act who shall in any manner for any fee, gift, compensation or reward or in expectation thereof, engage in, or hold himself out

to the public as being engaged in the practice of Medicine or Surgery, the practice of Osteopathy, the practice of any legalized method of healing, or the diagnosis, analysis, treatment, adjustment, correction or cure of any disease, injury, defect, deformity, infirmity, ailment or affliction of human beings or any condition or conditions incident to pregnancy or childbirth or examination into the fact, condition or cause of human health or disease or who shall for any fee, gift, compensation or reward or in expectation thereof, suggest, recommend or prescribe any medicine or any form of treatment, correction or cure thereof; also any person or persons, not hereinafter excepted from the provisions of this Act, individually or collectively, who maintains an office for the reception, examination, diagnosis, or treatment of any person for any disease, injury, defect, deformity or infirmity of body or mind, or who attaches the title of Doctor, Physician, Surgeon, Specialist, M.D., M.B., D.O., D.C., or any other word, abbreviation, or title to his name indicating or designed to indicate that he is engaged in the practice of Healing.

'Section 2. Qualifications

'No person shall engage in the "Practice of Healing" unless he shall first have complied with the following prerequisites:

'First: He must pass an examination given by the Board of Regents through its Board of Medical Examiners in the Basic Sciences, namely, Anatomy, Physiology, Physiological Chemistry, Bacteriology, Pathology, and Hygiene, and upon satisfactorily passing such an examination shall receive a Certificate of Proficiency in the Basic Sciences which shall not be interpreted as conferring the right to engage in the Practice of Healing.

'Second: After receiving said Certificate of Proficiency, he must pursue other studies as established by the law and appear before the Board of Choice of the Board of Regents for further examination, and having fulfilled other requirements prescribed by law, he may be licensed to practice.

'Section 3. Exemptions

'All persons already licensed prior to enactment of this Act.

'Section 4. Penalty

'Any person violating any provision or provisions of the foregoing Sections shall be guilty of a misdemeanor punishable by law."

SPEAKER BAUER: This resolution will be referred to the Reference Committee on New Business C, of which Dr. Guess is the chairman.

If there is nothing further to come before the House at this time, we will stand adjourned until nine o'clock tomorrow morning.

... The session recessed at 6:25 P.M....

Correspondence

[Continued from page 1142]

"Section 1265, subd. 4 of the Education Law provides:

'... The Chairman of said committee, when charges are preferred, may designate three or more of the members of said committee including at least one member who represents the same school of practice as the physician against whom charges are preferred. ...'

"This provision is outworn and outmoded. The public generally recognizes no fine distinctions between licensed physicians and, in dealing as we are with the statute designed to promote and protect the public health, the profession itself should not persist in perpetuating such classifications and differences. For example, the rights of osteopaths to expand their field of practice have been enacted by the Legislature and regardless of the merits in granting such expansions, it is illustrative of the rapidly fading distinctions between schools of practice, and removes the last valid arguments for making such distinctions.

"Any three members of the Medical Grievance Committee are qualified by ability and integrity to judge the merits of charges against a practitioner of medicine without regard to the school of practice of the physician thus charged or of the members constituting the committee. It is, in a sense, an unintended reflection upon the members of the Grievance Committee to require a member of the same school of practice to sit on a subcommittee. It is my firm belief and contention that the public health would be best promoted

and the practitioner accused of wrongdoing amply protected by removing the requirement that one of the members of the subcommittee be of the same school of practice as the accused.

"Instead of strengthening the statute, the Legislature is weakening it; instead of making it more flexible it has been made unwieldy; instead of simplifying the statute it has been made more complex.

"I respectfully submit that as the bill is unfair, discriminatory, unsound and contrary to the policy of the state, it should not be approved."

In view of the fact that my sentiments on this bill were made clear by Dr. Lawrence, I request that my point of view be published in the State Medical JOURNAL in all fairness and justice to the people and profession of this state.

Very truly yours,

(Signed) VINCENT P. MAZZOLA, M.D.

133 Clinton Street
Brooklyn, New York

NOTE: The Council of the Medical Society of the State of New York received and considered this at its meeting on May 14, 1942. The Council directed publication of the letter together with a statement that the Council approved this legislation and that it had wired the Governor urging him to sign the bill. Since that time the Governor vetoed the bill on the ground that the Board of Regents and the State Department of Education had unanimously opposed it.—Editor

THE CITY OF NEW YORK

EMERGENCY REVENUE DIVISION
50 LAFAYETTE STREET, NEW YORK CITY
WORTH 2-4780

May 25, 1942

To the Editor:

It is called to your attention for the information of the members of your society that the New York City Excise Tax on Gross Receipts imposed under the General Business and Financial Tax Law is due June 15, 1942. The tax is imposed for the privilege of carrying on or exercising for gain or profit within the City of New York any trade, business, profession, vocation, or commercial activity during the period commencing July 1, 1941, and ending June 30, 1942, or any part thereof. The tax is computed upon the gross receipts for the basic period (measuring period) outlined in the law. The basic period may vary according to the circumstances of the taxpayer. The calendar year 1941, however, constitutes the basic period where the taxpayer was engaged in business during the whole of such calendar year.

A physician is required to file a return on Form 42B and report thereon as Item 5 the gross receipts (gross fees) from the practice of his pro-

fession. Interest and dividends received from investments and profits derived from stock and bond transactions should not be included in the return if such transactions are of a personal nature not connected with the doctor's professional activities. In reporting gross receipts, no deduction may be taken for salaries, rent, and other office expenses. This year the tax is to be computed at the rate of $\frac{1}{20}$ of 1 per cent, which is a reduction of 50 per cent of the rate in effect last year.

No tax is imposed when the gross receipts do not exceed \$10,000, and no return need be filed in such cases. There is, however, no specific exemption under the law, and all persons having gross receipts in excess of \$10,000 must report the entire amount thereof.

Returns must be filed on or before June 15, 1942, at the office of the City Collector in the borough in which the taxpayer maintains his office. A remittance for the total amount of tax due, drawn to the order of the City Collector, must accompany the return when filed. Form 42B for filing such returns will be mailed to all taxpayers who have filed returns in prior years. This office will be pleased to furnish further information or assistance in the preparation of returns.

Very truly yours,
GEORGE MARLIN
Special Deputy Comptroller

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